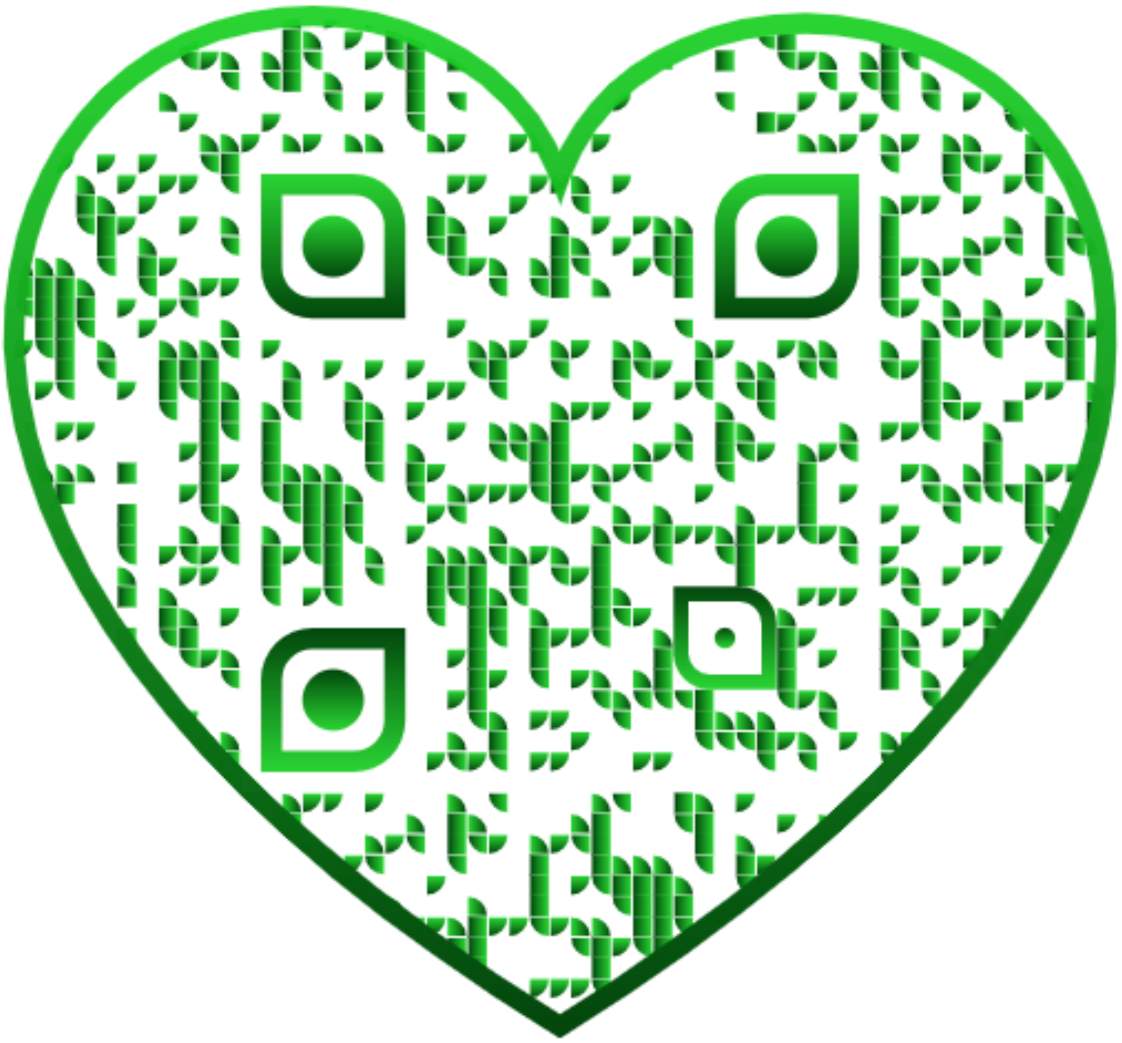
Issue 1/2024 · 5,90 €

lp

ANALOG HIFI AND VINYL CULTURE



finite elemente

THE SCIENCE OF SOUND

MADE IN GERMANY

Pagode Signature MK II

THE ART OF ELEGANCE

www.finite-elemente.eu

LP International

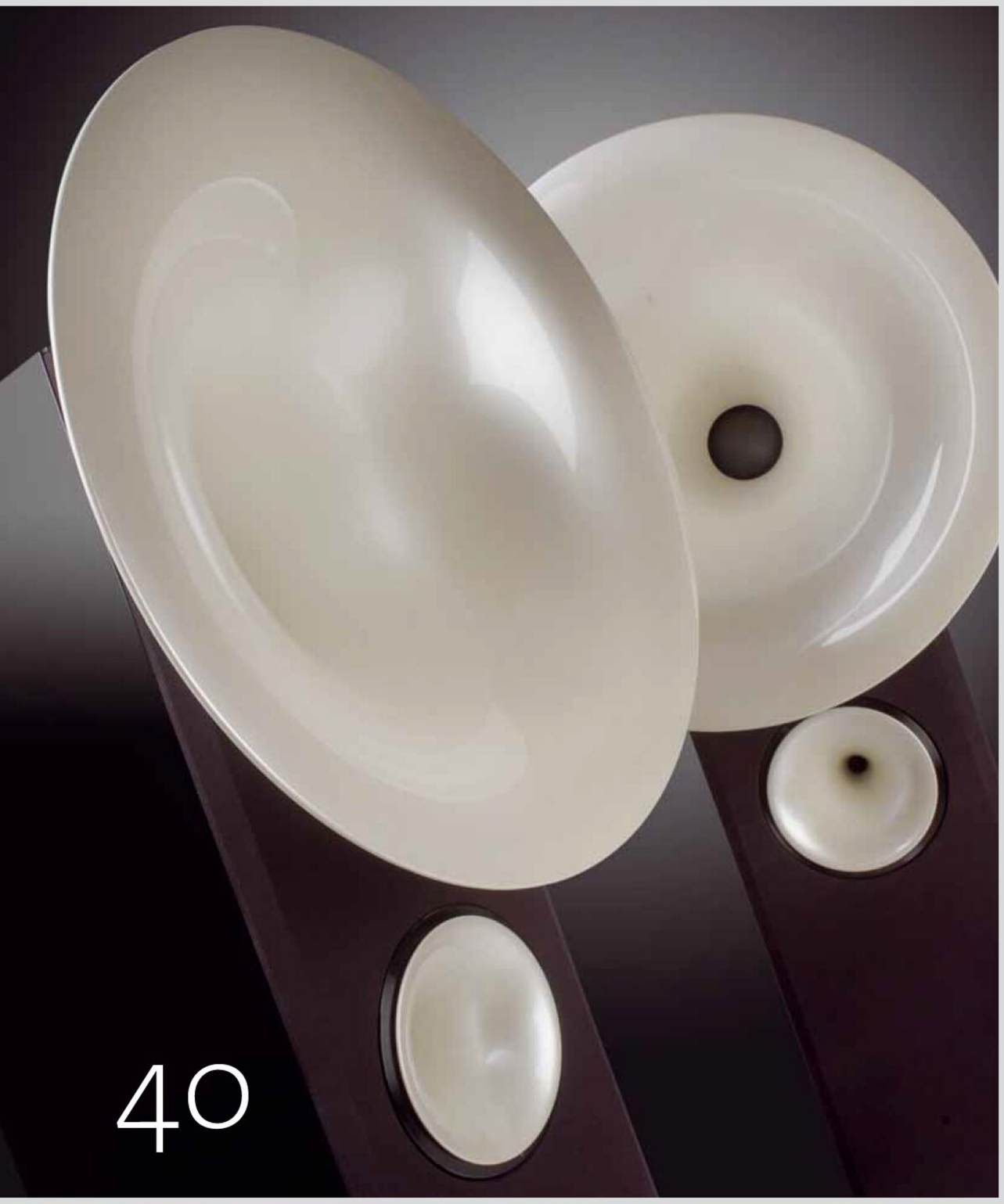
Recycled records?

Interesting things are happening around the topic of vinyl. Currently in the spotlight: the vinyl record itself, in its still current form a relic from the times of unchecked petroleum consumption. In other words: the polyvinyl chloride used for production is a petroleum product, with all the associated problems.

There have been repeated efforts to find alternatives to the tried-and-tested solution, but these have met with only moderate success. Now things are moving forward. Three processes are currently being promoted that are intended to at least reduce dependence on oil and also improve the environmental footprint of record production. In the case of „bio-vinyl“, the record lover has to be brave at first, as part of the raw material is replaced by recycled cooking oil or residues from industrial waste gases. Sounds strange at first and we don‘t want to hope that records will soon smell like chips. Whether this has a future remains to be seen, but records made from organic vinyl will definitely be on the market soon.

A process that is certainly less critical is called „re-vinyl“, in which production residues – primarily the unavoidable edge trimmings from record production - are mixed back into the original material. This seems far less critical at first, the problem here seems to be primarily the increasingly popular colored pressings: the added residues changes the color of the material to be pressed. But that‘s not all: another supplier is currently trying to completely replace PVC with polyethylene (PET), which would make injection molded records possible. Whether this is a good idea we don‘t know at the moment, but we are very excited to see the first samples produced using this process. And that‘s not all. There are apparently already the first publications on plant-based material (sugar cane), that should also be exciting. Even if the big vinyl boom has has faded a little - the record is still a product that is worth investing in technical innovations. We are excited and will report.

Holger Barske, Editor in Chief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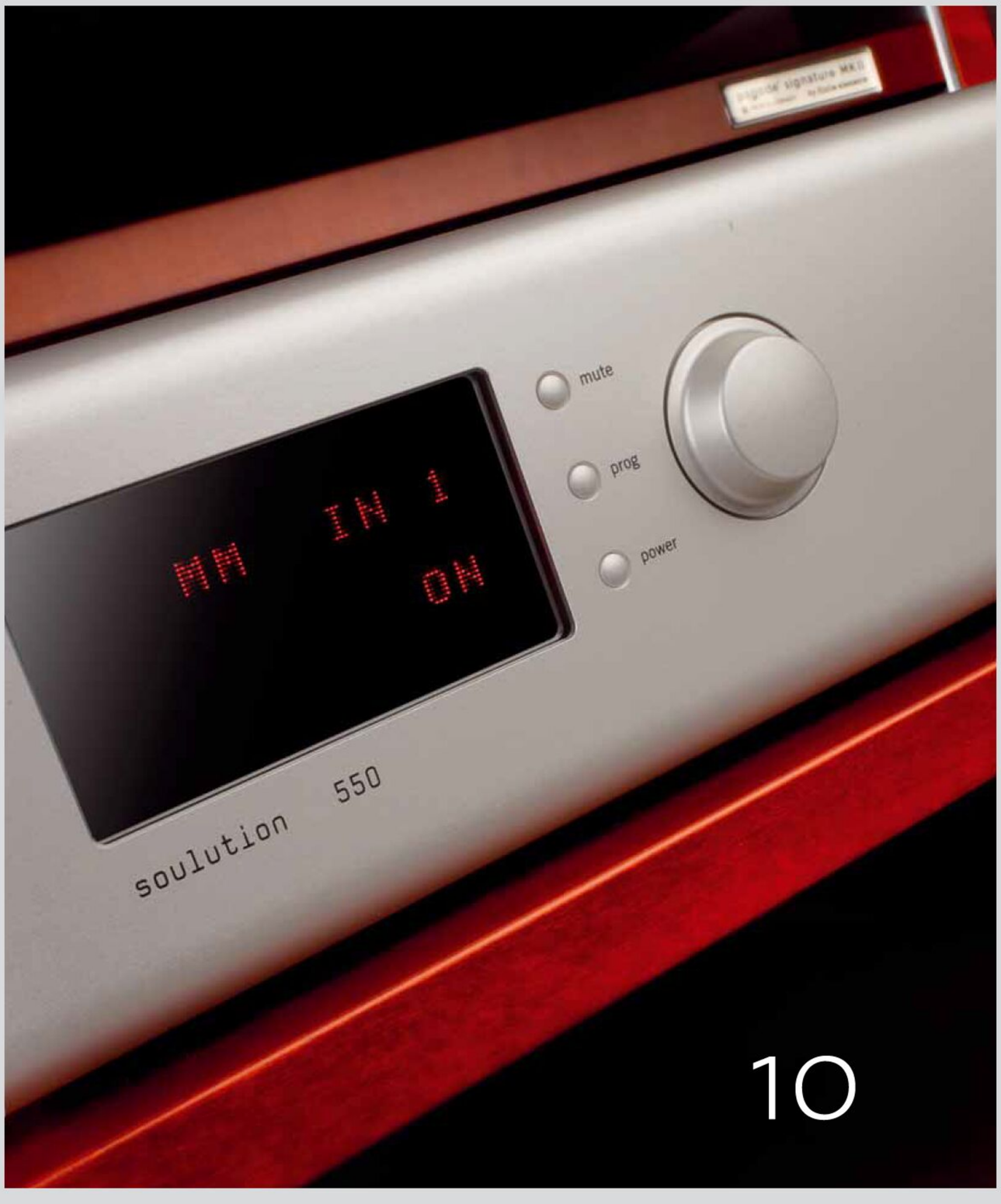

New MoFi turntable

With the „Master Deck“, US manufacturer MoFi presents the new top model of its in-house turntable range. Once again designed by seasoned analog professional Allen Perkins it is manufactured entirely in the USA and it’s available at price starting at just under 8000 Euros in Europe – without cartridge, but with tonearm. In return, you get a piece of belt-driven glory weighing around 20 kilograms, with a hybrid platter made of Aluminum and Delrin and an electronically controlled drive that also manages 78 revolutions.
The basis is is a highly damping „Constrained Layer Damping“ construction, while feet from specialist feet from the specialist HRS ensure a secure stand.
The tonearm is a ten-inch long carbon fiber construction, all geometrically relevant parameters are adjustable, the internal cabling comes from Cardas.

Contact: High-Fidelity Studio, Augsburg, Germany
Phone: 0049 82132750
Internet: high-fi delity-studio.de

2MR cartridges from Ortofon

The cartridges of the new 2MR series from Ortofon have a newly developed cartridge housing with reduced height. This means that they can be easily fitted to turntables and tonearms that require flatter cartridges (for example those from Rega). This now works without any additional modifications such as the fitting of tonearm spacers.

Ortofon has retained the unique 2M technology with its four-coil generator technology with slotted pole pins (split-pole-pin technology) and the elaborate rubber suspensions. The new 2MR series is also fully compatible with the proven 2M replacement stylus program. The series includes all known types from the 2MR Red upwards to mono and shellac cartridges. The prices are between 100 Euros for the 2MR Red and 1,000 euros for the 2MR Black LVB 250.

Contact: Ortofon, Münster, Germany
Phone: 0049 2519801450
Internet: ortofon.com

Colorful Power Conditioners

The outstanding and multi-award-winning Power Condioners from Estonian manufacturer Audes are now also available in white, at no extra charge. Even a custom paint finish from the RAL spectrum is now possible for an additional charge. The price is always on request.

In addition, all Audes Power Condioners now have a built-in DC filter, which removes annoying DC interference from the mains supply in a clean and sound-neutral way. This interference usually leads to hum problems and puts unnecessary strain on the power supply units of the connected devices.

Contact: TCG Handels GmbH, Nordhorn, Germany
Phone: 0049 59217884927
Internet: tcg-gmbh.de

Rega AYA

Developed over ten years by a team of Rega designers headed up by the founder Roy Gandy, the AYA loudspeakers promise to deliver a detailed, balanced performance no matter which genre of music you decide to play. Using Rega designed, handmade drivers, coupled with our ZRR high frequency tweeter and a new crossover, our engineers have fine-tuned every aspect to deliver the best possible performance. The sculptured cabinets and stand create an attractive, floating effect which adds to the unique appearance.

· Custom GRC cabinet (glass reinforced cement)
· Band pass cabinet design
· 2.5 way system
· Rega designed ZRR high frequency unit
· 5" Handmade MX-125 Bass mid driver
· 7" Handmade RR7.8 Bass driver
· Interesting price point: around 2000 Euros / pair

Contact: TAD Audiovertrieb, Aschau, Germany
Internet: tad-audiovertrieb.de

Musik hören
ist einfach

Musik fühlen
ist einfach analog

Tauchen Sie ein in die ergreifende Welt der analogen Musikwiedergabe.

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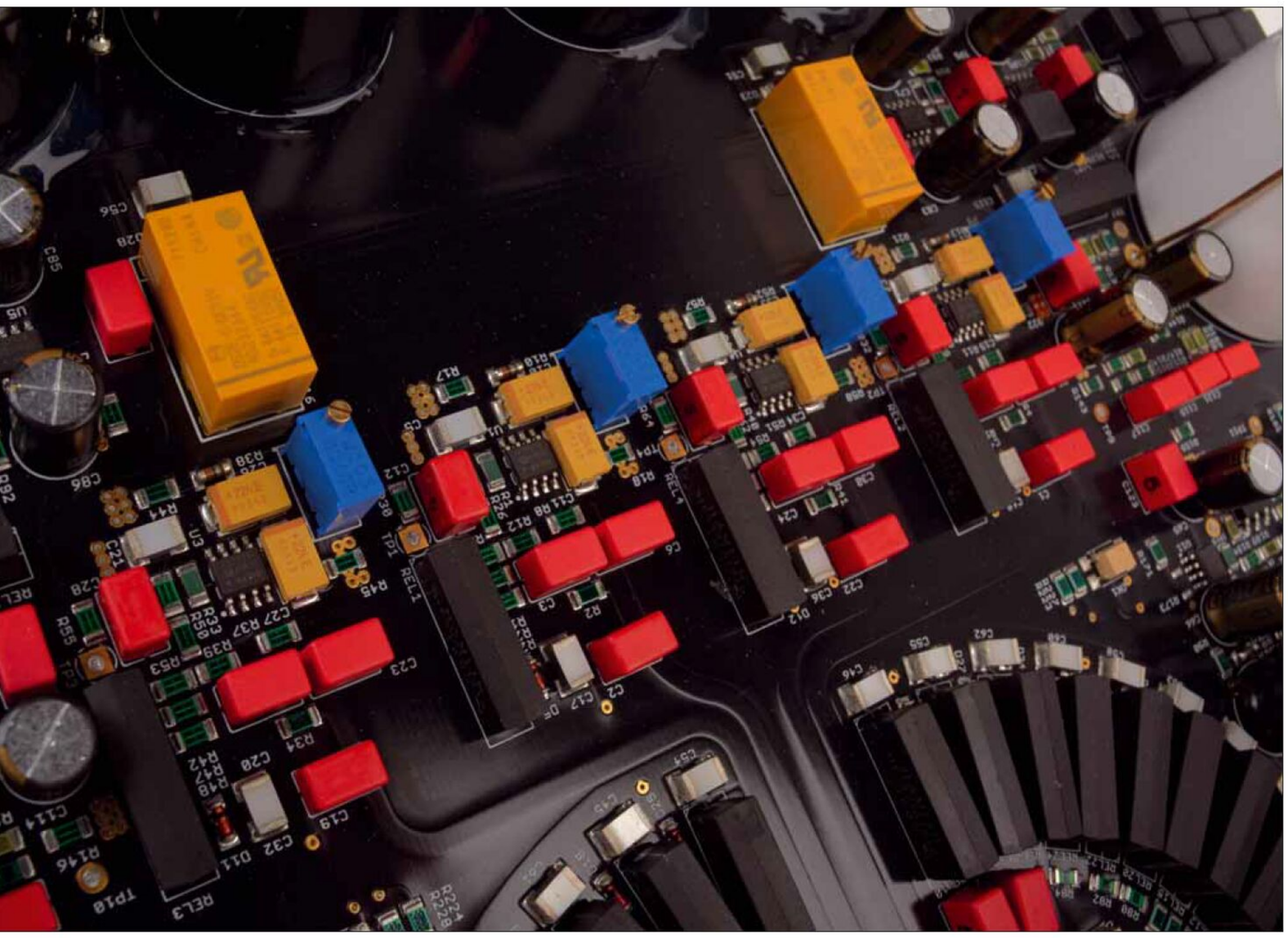
soulution 550

Aristocratic Class

soulution products have an excellent reputation.
After a change of distributor, we were able to convince ourselves of this.



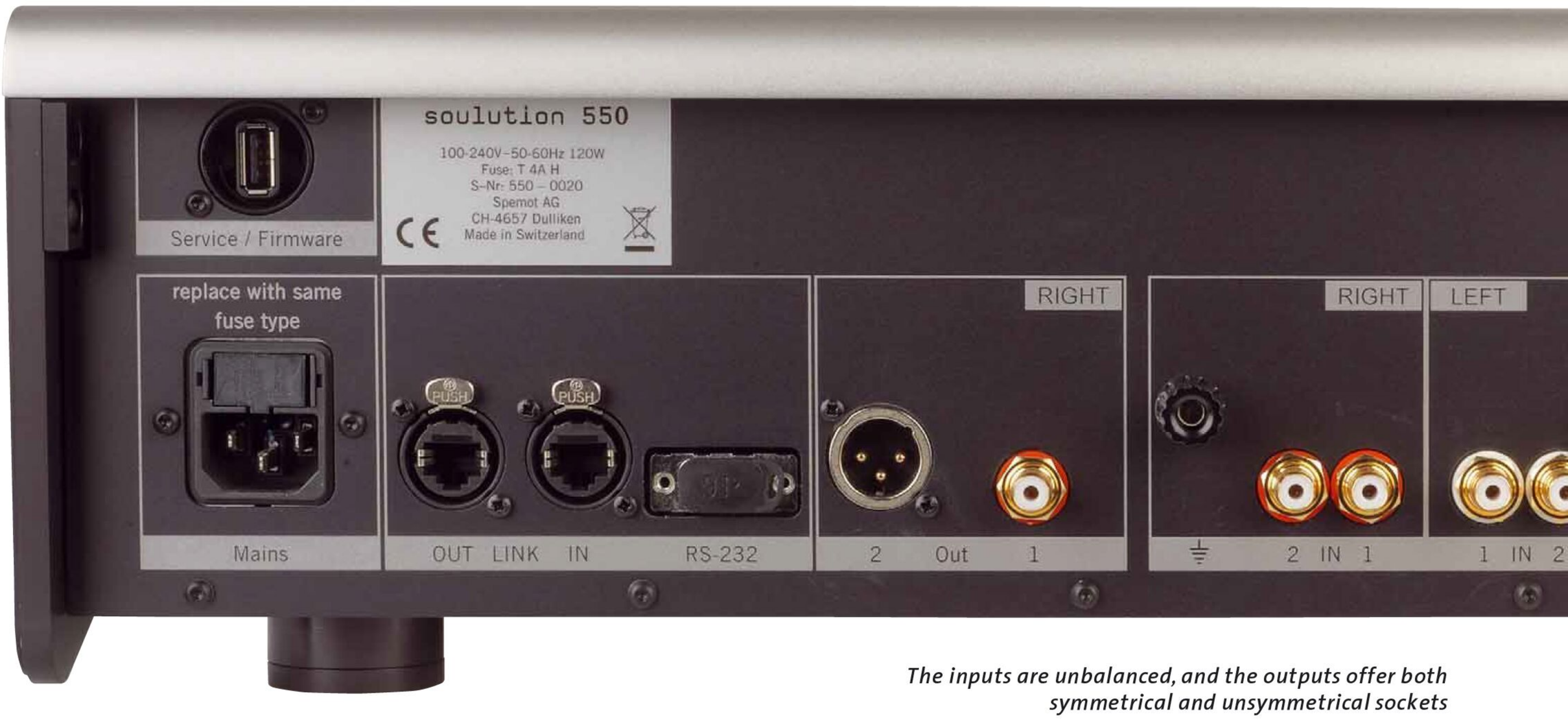
It looks like something out of a textbook. The sound tuning is crucial

Grüezi

soulution boss Cyril Hammer is the kind of Swiss man you would expect, and his manner matches the devices he develops: calm, likable, and competent. He gives the impression of being unflappable and has a great sense of humor. This brings me straight to the soulution 550 phono preamplifier, the company's – and you have to be strong here – entry-level offering. In our conversation, Hammer anticipated a topic I would have asked him about because it caused irritation: He uses switching power supplies in his phono preamp. Why is that irritating? Well, we're talking about a Swiss company and a device that costs more than EUR 20,000, so switching power supplies seem a bit mundane at first glance. You might also be concerned that they interfere with the critical and sensitive phono circuit.

Seriously?

This concern is, of course, unfounded because Hammer does not use any leaky switching power supplies. Quite the opposite. He points out that, unlike linear power supplies with more or less powerful mains transformers, switching power supplies have no magnetic leakage and a switching



The inputs are unbalanced, and the outputs offer both symmetrical and unsymmetrical sockets

frequency of 60 kHz. A high-quality linear regulator and low-pass filter flank them. According to Hammer, the results are significantly better than those of any linear power supply he has tested. His solution is lower noise, more stability, and perfect sound for him. I also asked him why he doesn‘t use an external mains supply for his phono. He doesn‘t see the point: „It would require additional cables, and you want to have the power supply directly at the signal.“ I find that wonderfully pragmatic. Hammer does many things differently with soulution, but more on that in a moment.

Backgrounds

I want to rummage around a little in the company‘s history. The parent company of soulution is Spemot AG. Initially, it was a company for motors, craft machines, and household appliances. They were already supplying parts to Thorens in the 1950s, but the special motors division for the automotive industry was only added later. The company also cooperated well with the Swiss cooperative wholesaler Migros for household appliances. However, this fell away due to cost pressure from Asia, as it was simply not possible to market a hairdryer for 150 francs economically. So they looked around for a new mainstay, and that was audio electronics. Cyril‘s father, a passionate audio and music lover, bought Spemot and took over the distribution of Audiolabor in Switzerland. When Audiolabor was no longer, they hired the former Audiolabor chief developer Christoph Schürmann in 2000. However, it took six whole years before the first device was ready for series production, which means that soulution was officially launched in 2006.

Decisions

I pointed out at the beginning that Cyril Hammer is not afraid to go down seemingly unpopular paths if he and his team believe these paths are the right ones. But what is right? Well, from Hammer‘s point of view, it is, above all, the most outstanding phase accuracy. He and his team have worked out this criterion as a core issue. What does that mean? They develop all devices with minimal phase shifts as an essential „sound“ lever. For example, when

Teammates

Turntable:
· Transrotor Massimo Nero
· Thorens TD 1601

Tonearm:
· Transrotor Studio 12
· Thorens TP 160

Pickup cartridges:
· Transrotor Figaro
· Thorens TAS 1600

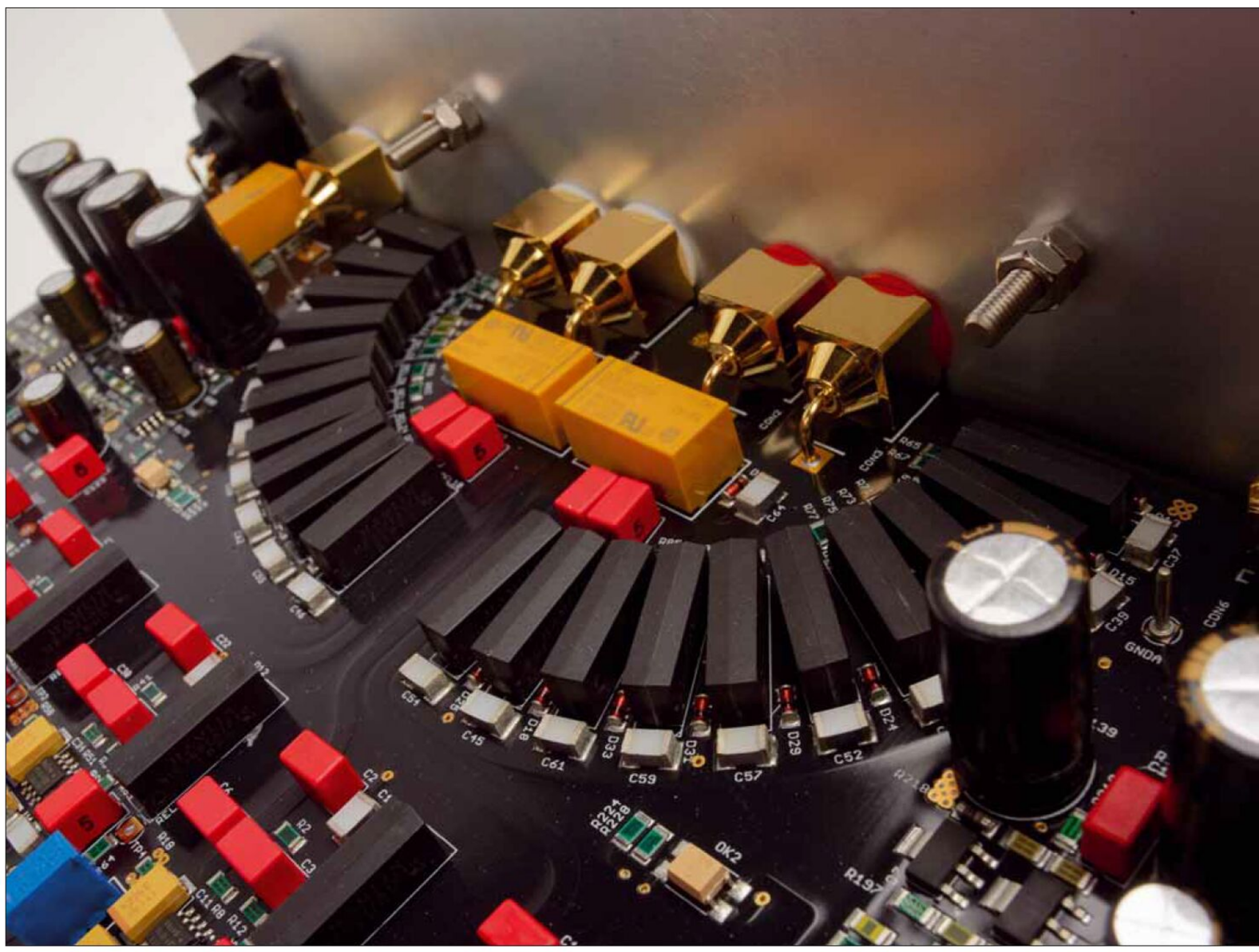
Power amplifier:
· Parasound NewClassic 200 Pre

Endverstärker
· Parasound NewClassic 275 V2

Loudspeaker
· Xavian Madre Perla Esclusiva

Competitors

Loudspeaker:
Phono preamplifier:
· Canor Asterion V2



I have rarely seen such a beautiful setup. Here is the impedance matching

Anouar Brahem – Blue Maqams

What we played

Flute á bec Lute & Guitare
Bach Haendel Telemann Dowland

Dorothy Ashby and Frank Wess
In a minor groove

Anouar Brahem
Blue Maqams

Led Zeppelin
How the west was won

Bill Evans
Trio ´65

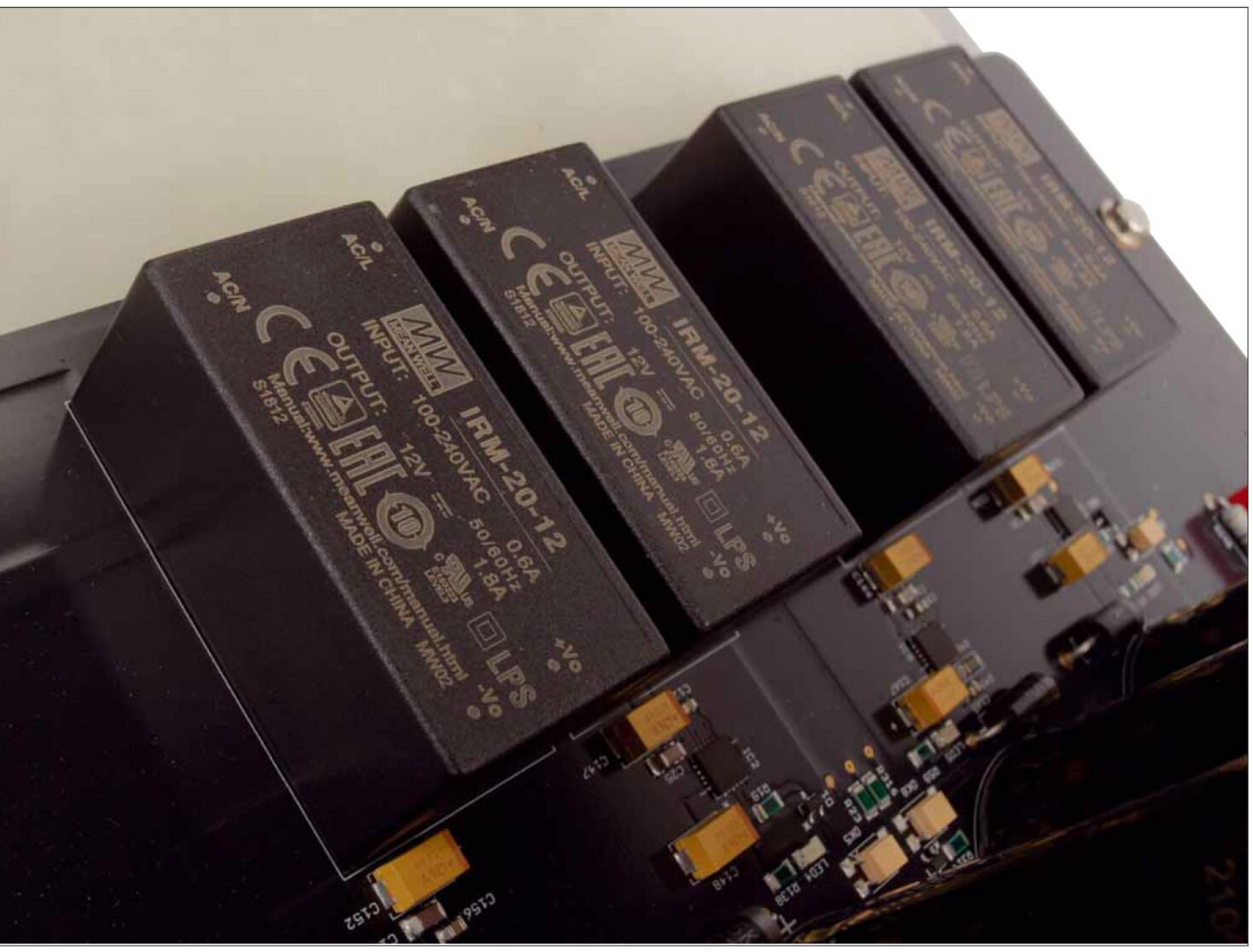
developing their latest preamplifier, they created two comparative devices with a phase rotation between 0.2 and 2 degrees, each infinitely adjustable. Even at 0.8 versus 2 degrees, you would think you were listening to two completely different devices.

Many roads

They say many roads lead to Rome, and nothing characterizes soulution‘s solutions more aptly. There is this ideal of the „reinforcing wire.“ Even if the idea is tempting in theory, it stems from a somewhat romantic attitude. Music is stored in any kind of tin can. How its content can be brought back to life is a matter of debate. That this can ideally be done in the most direct way is understandable and doctrinal. But there are developers who achieve convincing results by doing the opposite, which brings us back to soulution. Cyril Hammer is aware of all this and consciously prefers to add one more stage rather than one less. That‘s why he works with five stages on the 550: Input stage, gain stage no. 1, RIAA equalization, gain stage no. 2, and output stage. The maximum gain is 55 dB for MM cartridges and 66 dB for MC cartridges (symmetrical). It also relies on an extremely low output impedance of 10 ohms. You can hear the maximum noise reduction because you hear nothing but music.

The circuit

The actual circuit is a push-pull class A circuit with operational amplifiers (OpAmps) as drivers and local negative feedback. The RIAA itself has a two-stage passive-active design. Hammer uses high-quality OpAmps with fairly tight local feedback loops for amplification. Please don‘t think that soulution has cut corners here. They measure and listen to all solutions very carefully. And that‘s why they use what makes the most sense in the overall picture of the circuit – in terms of measurement and, of course, sound-wise. The output stage works with bipolar transistors identical to those in the 520 preamplifier. So soulution assumes that the devices will be operated in a „domestic“ environment, which makes sense. Adapting different MCs‘ impedances is carried out with metal film resistors switched by reed relays. The result can be seen on the large display: thanks for that! This user-friendly display resulted from a learning process for soulution, who used to employ dip switches on the rear panel, which greatly annoyed us journalists.

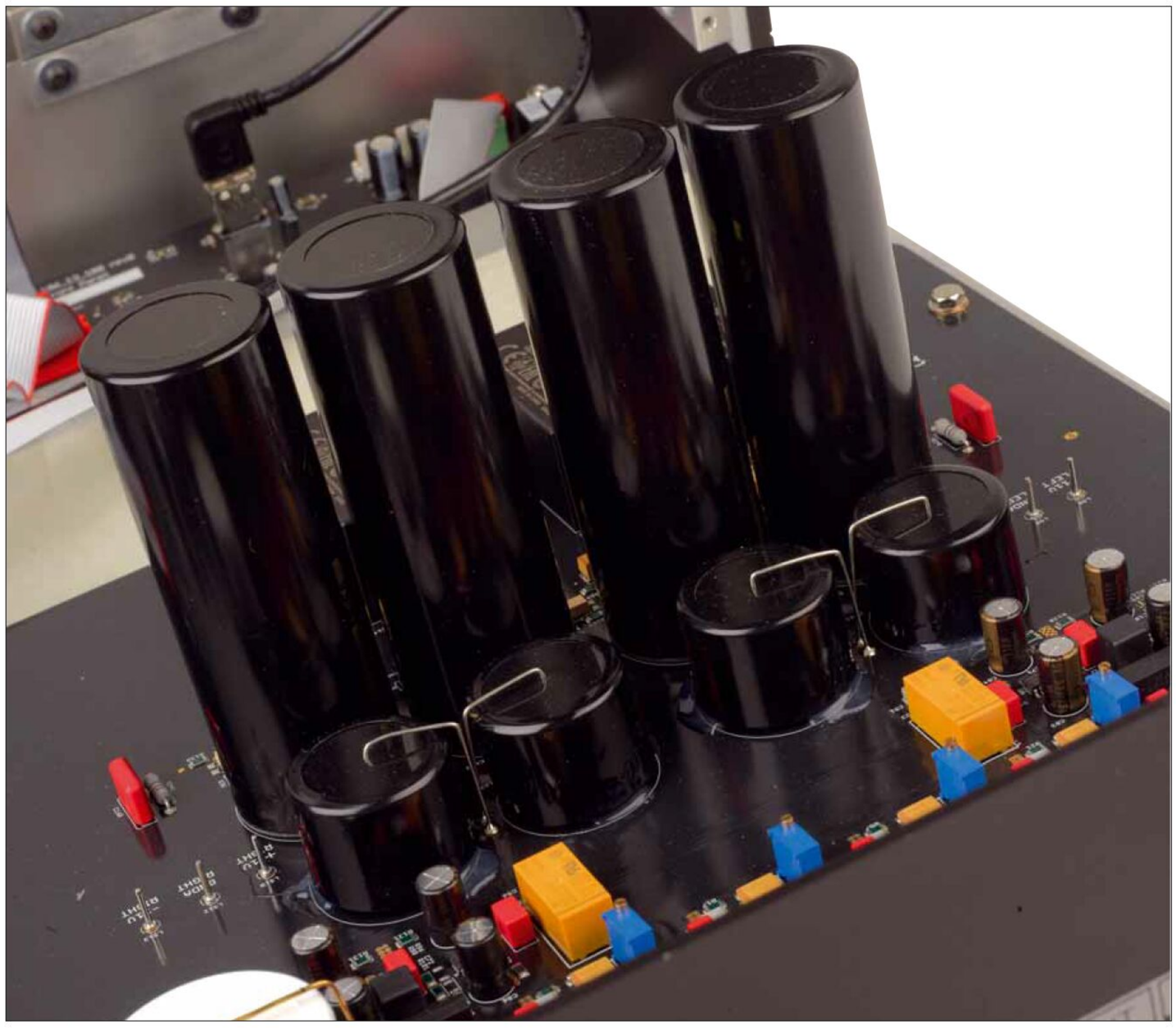


There they are, the "bad" boys. But using a switching power supply alone is by no means enough

Honesty lasts longer

I asked Cyril Hammer why he sets up the phono in double mono but keeps it unbalanced. He told me quite frankly that he simply doesn‘t have enough space on the circuit board for it and that there are, after all, larger phono preamps on offer. He merely wants to implement the technology possible for the respective price point as uncompromisingly as possible. The new 757 Deemphasis preamplifier presented in Munich offers symmetrical inputs. The housings are of an extremely solid build quality and, like the circuit boards, are manufactured in Switzerland.

The stable linear regulators and ample sieving are essential for trouble-free operation



Sound

The outstanding features of this phono preamp are its finesse and its unobtrusiveness. I would even go so far as to say that the soulution 550 is not a phono pre for beginners, which is hardly an issue given its price. But it is also not for restless listeners looking for an immediate kick. Initially, it sounded very restrained, but that audibly improved after a few days of listening. It then blossomed with music that suited its fundamental unobtrusiveness – for example, a superb recording with flute, lute, and guitar. A Bach sonata made me forget time and space, a true sonic and interpretative stroke of luck. But with a phono like this, you have to be able to reproduce all genres adequately. So I play Led Zeppelin, and here, the folk songs of the legendary hard rock band virtually blossom, becoming transparent, almost crystalline.

HOLBORNE

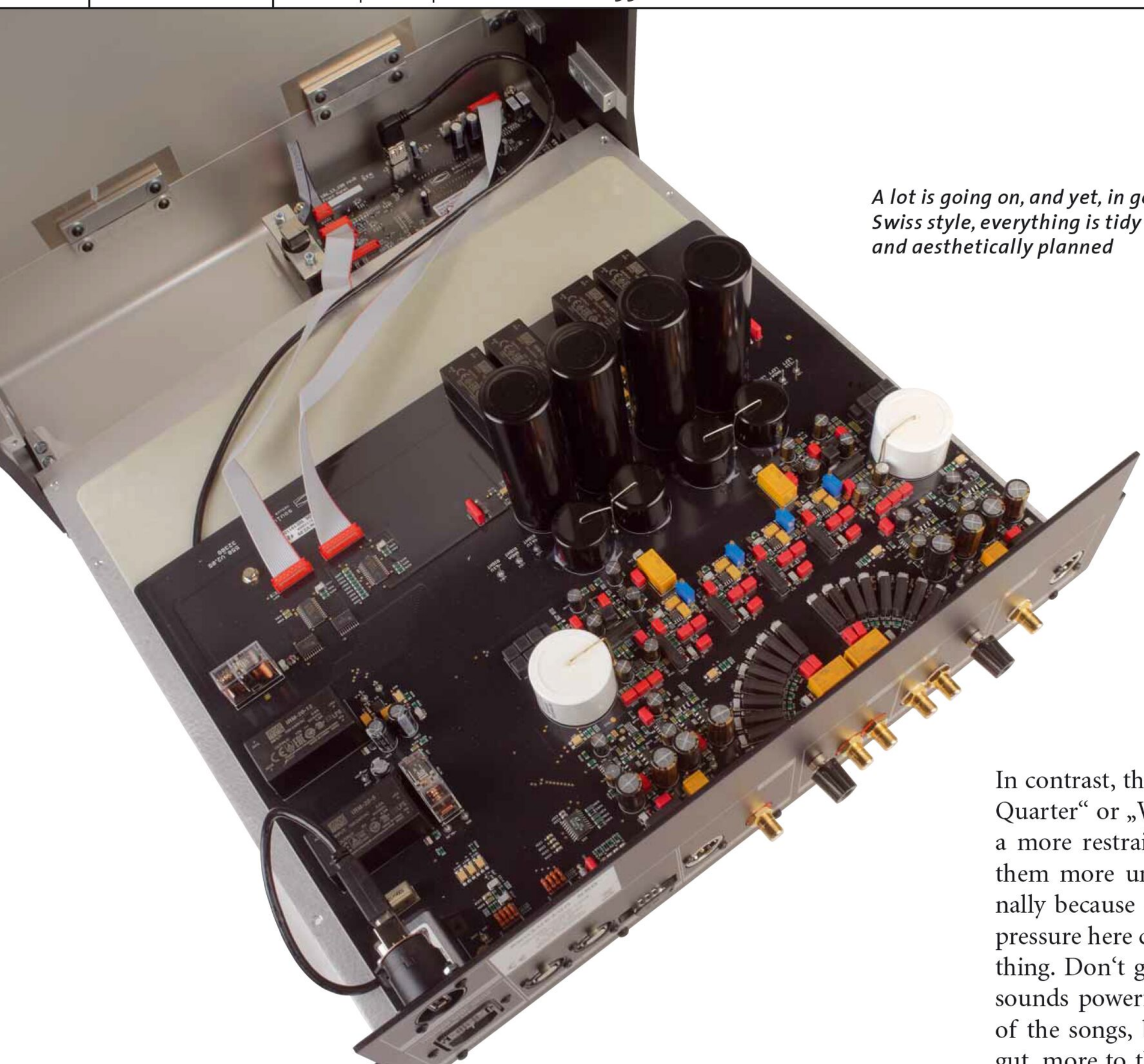
Test LP 1/24 Holger Barske: The device is free of allure, works perfectly, sounds completely confident and conveys exactly thatright amount of understatement.

Skyanalog

PRODUCT OF THE YEAR
lp 2022
Skyanalog
P-1, P-2

Test LP 2/24 Holger Barske:
An emphatically noble and fine-sounding MC without any airs and graces to an extremely fair Price – the P1-G will definitely be next Successful model from Skyanalog

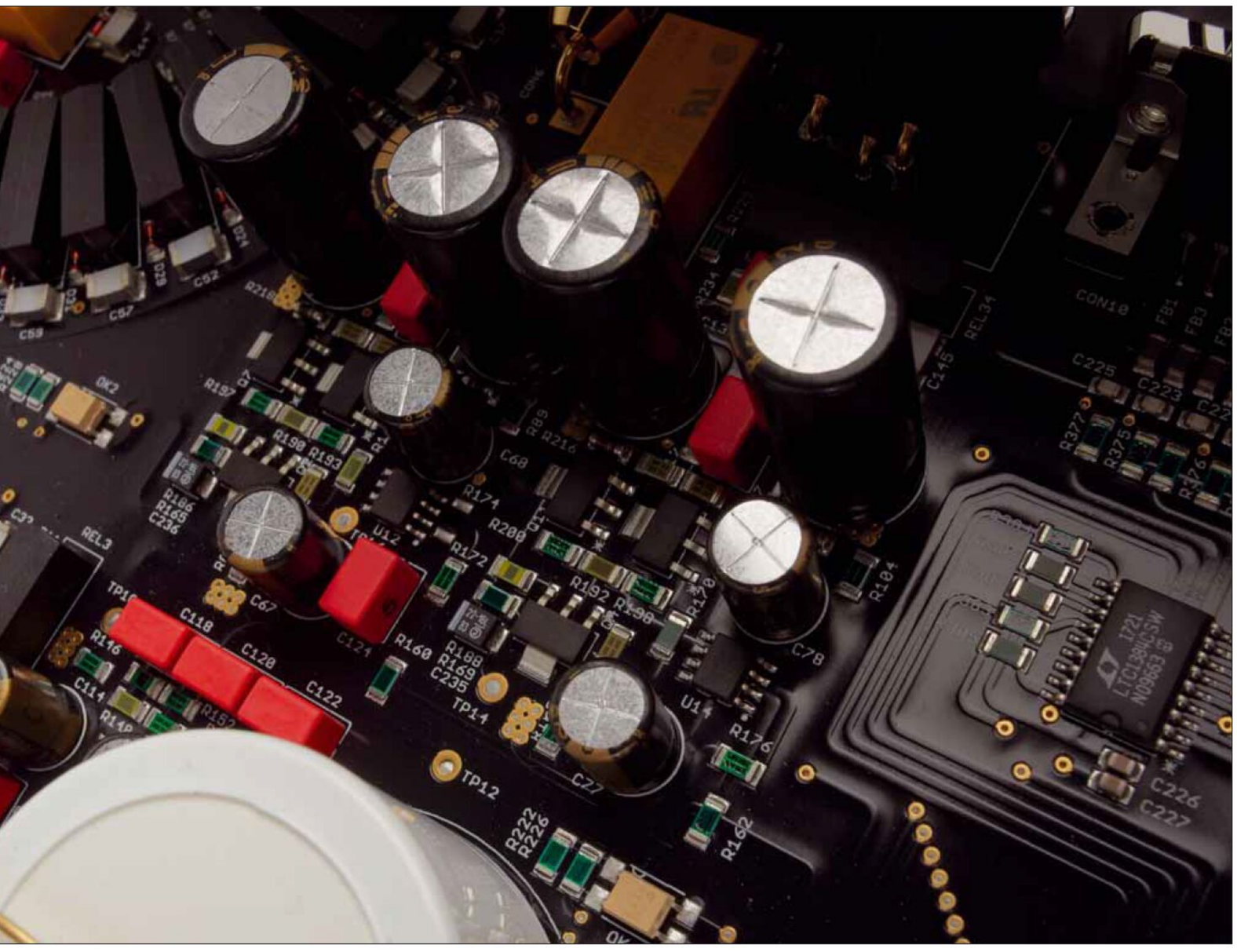
TCG Handels GmbH • Döppers Esch 7 • 48531 Nordhorn • Tel. +495921-7884927 • info@tcg-gmbh.de



A lot is going on, and yet, in good Swiss style, everything is tidy and aesthetically planned

In contrast, the hard breakers such as „No Quarter“ or „Whole Lotta Love“ are given a more restrained treatment. This makes them more understandable to me personally because exerting additional acoustic pressure here could be too much of a good thing. Don‘t get me wrong, the soulution sounds powerful and conveys the essence of the songs, but it doesn‘t appeal to the gut, more to the intellect. Maybe that will change after a few weeks or months of operation, but I don‘t know. In any case, I‘m drawn back to nobler, softer tones, namely Anouar Brahem‘s fantastic album „Blue Maqams.“ The playback with the soulution and the Transrotor Massimo Nero with Figaro cartridge, a Goldring derivative, is really classy. The title track begins with one of Jack de Johnette‘s basic dance beats, for which I love him so much. And then Brahem‘s unearthly, beautiful lute tones rise from a wonderfully black background: that‘s what bliss sounds like. Toward the end of the piece, I hear the clear resonance of Django Bates‘ piano strokes and understand why soulution has so many fans – it makes me want more.

Christian Bayer



On the right, we see an IC providing the RS 232 system integration. The 550 is a state-of-the-art device

Soulution 550

· Price	ca. 21,500 Euro
· Distribution	Axiss Europe / Hofheim / Ts.
· Phone	+49 6192 296 64 34
· Internet	www.axiss-europe.de
· Warranty	5 years
· Dimensions (W x H x D)	442 x 143 x 448 mm
· Weight	approx. 17 kg

lp soulution 550

International 1/24

» There are some things you can simply rely on. For example, top-quality components such as the soulution 550 phono preamp come from Switzerland, which fulfills all expectations of a top-class device. It is the perfect way to bring the subject of phono preamps to a close.

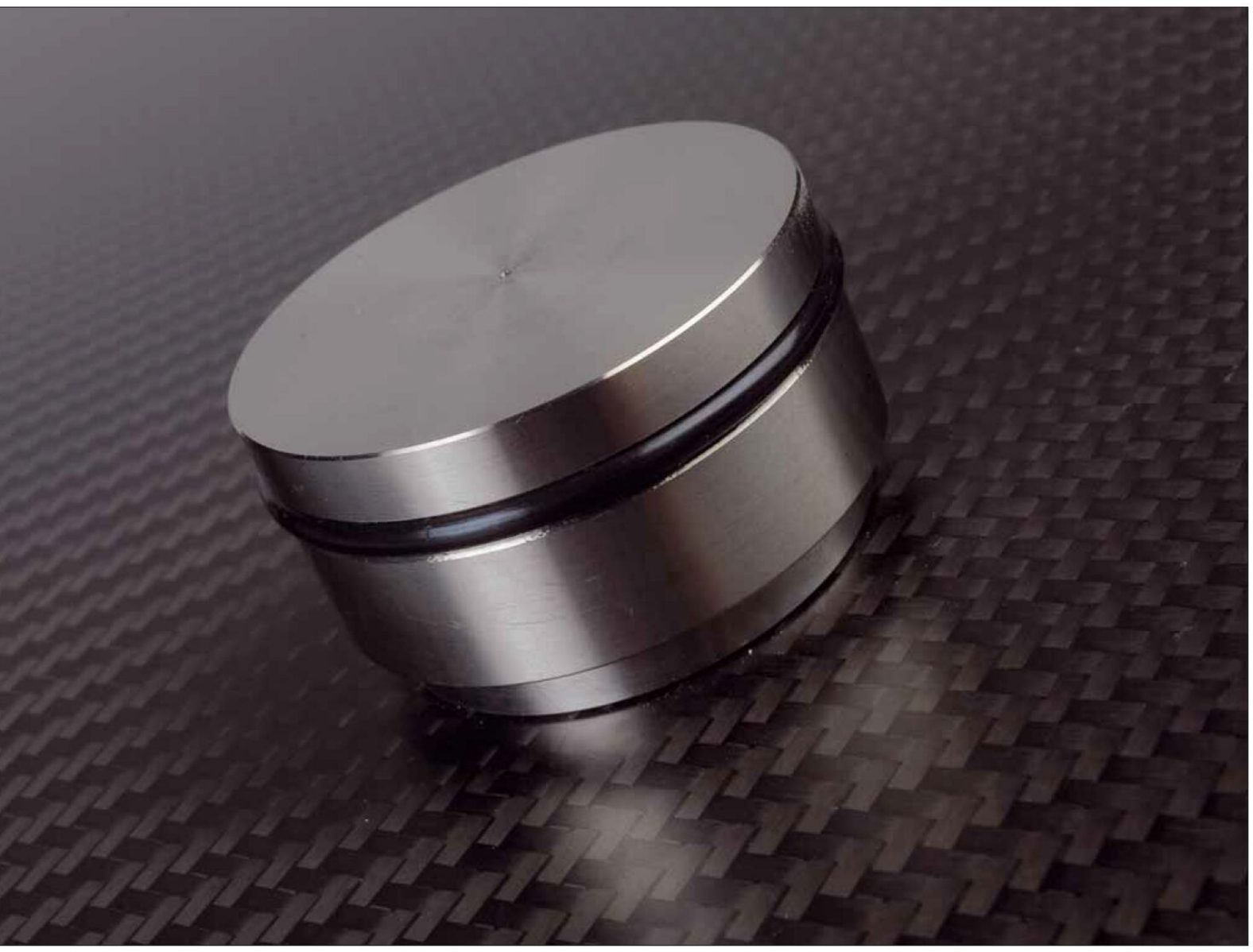
Fundamentals

Following the impressive return of the Paderborn manufacturer Finite Elemente with its Rack Pagode Signature MK II, it is time to go one step further.

Simple on the outside but blessed with a lot of high-tech: The Carbofibre bases

Fundamentals

This time, it‘s not about a rack but about device bases. And ones that, at first glance, have nothing to do with the rack we presented to you in LP 6/23. While delicate wooden surfaces dominated the scene last time, the high-tech material carbon fiber is now taking center stage.



„Fully tightened“ is still the most stable operating mode

The bases in the „Carbofibre“ range are designed to create the best possible working conditions for the appliances placed on them and to ensure that, on the one hand, no unpleasantness from the substructure reaches the appliances and, on the other, that mechanical vibrations caused by the appliances themselves are effectively dissipated and rendered „harmless“ inside the bases.

These are precisely the tasks that are also attributed to high-quality hi-fi racks. The Carbofibre bases can be combined with pretty much all hi-fi furniture on the market. And, as you may have guessed, there is, of course, a rack series from Finite Elemente in which the technology of the separate device bases has also been integrated.

Structure

The „Carbofibre“ bases are available as standard in two dimensions: 450 x 400 and 500 x 475 millimeters, which should suit pretty much all conventional components. Both models are available in 23 and 45 millimeters of thickness, with the thicker versions sporting a double-layer construction. This also results in their double maximum load capacity of 100 kilograms.

The internal structure of the Finite bases differs significantly from what is usually used in the hi-fi sector to support equipment. There is a faction that consistently aims for maximum internal damping

A fine thread holds the stainless-steel feet in place

through mass and uses stone (preferably granite) or constructions filled with sand. Their job is primarily to convert vibrations into heat, thus rendering them harmless. Then there is the faction that builds as light and rigid as possible and does not rely on absorbing vibrations but on dissipating them to where they no longer cause damage, i.e., into the floor. However, this is less a job for an equipment base and more for a complete rack system.

Finite Elemente combines both approaches. Their bases are planked with carbon fiber panels that unite low weight and rigidity. Inside sits a core consisting of a vertical honeycomb structure. Inspired by Mother Nature, this construction combines maximum strength, low weight, and minimal material usage in an almost miraculous way. For good reason, even load-bearing structures in aircraft construction are realized this way.

Teammates

Turntable:
· Sony P2250 / Garrott Optim S

Phono preamplifiers:
· Canor Asterion V2
· Soulution 550

Integrated amplifiers:
· Thivan Labs 811 Anniversary
· Accuphase E207

Loudspeaker:
· DIY MiniOnken / Klughorn /
· Focal / JBL

Competitors

Furniture:
· Ikea Lack

Four height-adjustable feet allow sensitive leveling

Nina Simone – Black Gold

What we played

Nina Simone
Black Gold

Monk Big Band And Quartet
In Concert

The Spacelords
On Stage

John Coltrane
A Love Supre

Such a structure is also common in the furniture industry - albeit with significantly less expensive materials: for example, a well-known side table from a Swedish discount store is constructed practically like the finite element bases. The difference is that the two „HD“ models from Paderborn have a two-layer structure with an additional carbon fiber layer separating the two honeycomb cores. For turntable applications, the spirit level embedded on the top at the front has proved very useful, helping to align the base strictly horizontally.

Substructure

The Carbofibre bases are factory-fitted with four height-adjustable stainless steel feet. They are slightly offset inwards, which ensures a healthy weight distribution, but requires a certain amount of manual acrobatics when adjusting if you don‘t want to lift the base and the appliance standing on it. The four feet require a little more adjustment work than the commonly favored solution with three feet. However, it has the advantage of tipping significantly less. I would also have liked a solution for locking the threads: if you turn the adjustable feet out of their end position, the play in the threads on the top is noticeable. Not much, but considering the price of at least EUR 1,590 per base, that last touch of perfection would have been desirable.

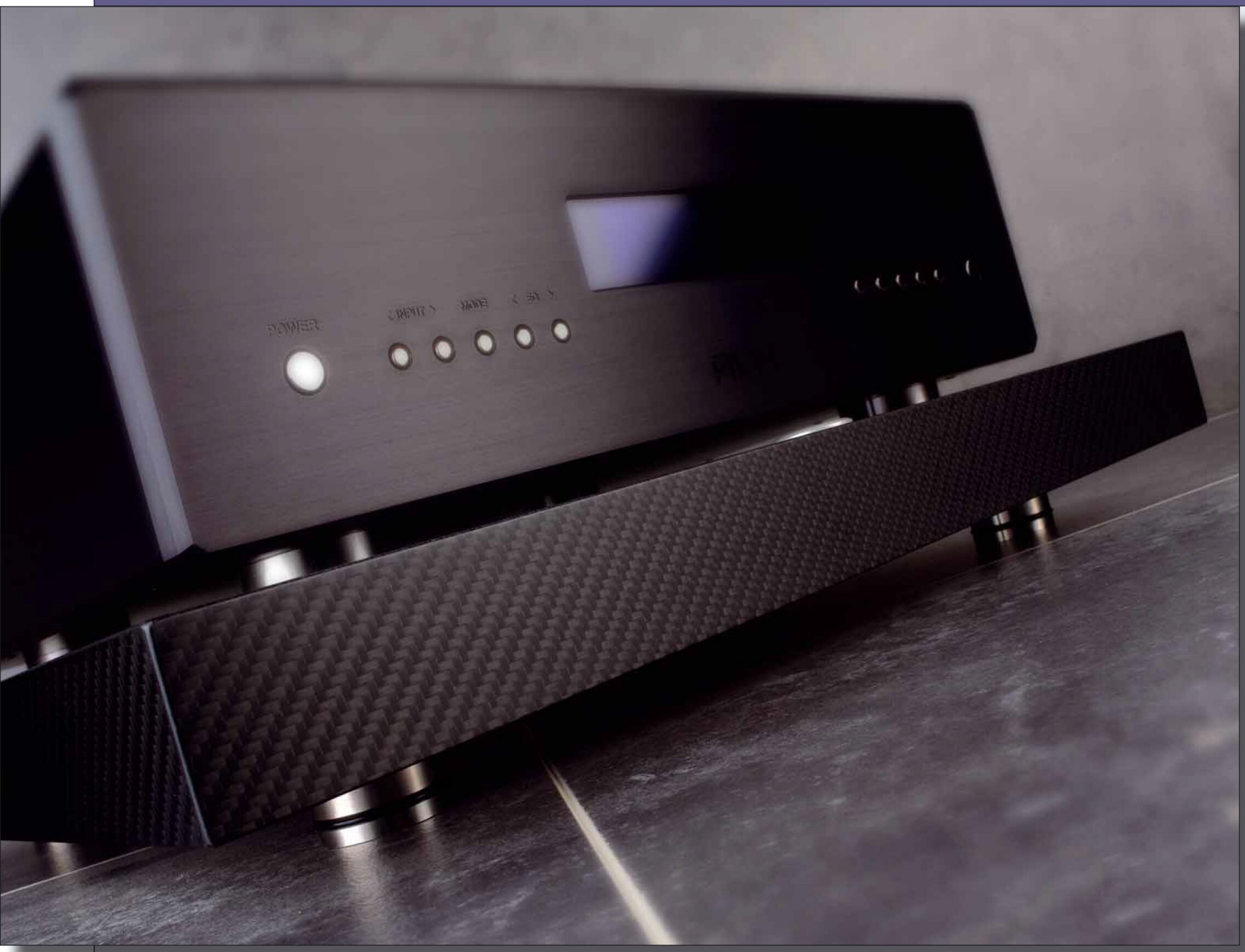
Sound

I don‘t like it when expensive hi-fi components have to be given a helping hand with accessories such as bases before they can unleash their full potential - high-quality equipment should be immune to such influences. But they are not. The CFHD02 bases available to me proved this very clearly. Naturally, turntables react particularly sensitively to their substructure. In my case, it was a 40-year-old Sony direct-drive turntable that blossomed sound-wise to an almost shocking degree on the luxury base: The previously contoured and powerful bass range thanked the measure with significantly more color and nuances, I didn‘t even realize how „gray“ the setup had played before. Nina Simone suddenly felt audibly more comfortable in my living room; she seemed more emotional and moved much closer to the listening position.
And since I have touched the topic, I have actually tried the same with the top of the aforementioned Ikea table for comparison: Sorry, dear money-savers, their effect cannot be compared with that of the Carbofibre base, the differences to operation without a base are only perceptible to a minimal extent in this case.
Next candidate: The superb Canor tube phono preamp, which we report on elsewhere in this magazine. Operating it on the CFHD02 yields such dynamically impressive results that I found operating it without the substructure afterward difficult. The sound gains were noticeably less pronounced with semiconductor electronics but still present. If you think you‘ve come a long way with your system, I strongly recommend you try the finite element bases. I‘m pretty sure you‘ll be just as amazed as I am.

Holger Barske

Especially welcome when used with turntables: the circular spirit level

Finite Elemente Carbofibre



· Price	ca. 1,600 Euro
· Distribution	Finite Elemente, Paderborn
· Phone	+49 5254 64557
· Internet	finite-emente.eu
· Warranty	2 years
· Dimensions (W x H x D)	550 x 475 x 45 mm

Finite Elemente Carbofibre

International 1/24

» The finite element bases are among the most effective sound tuning measures I have ever encountered. Turntables and tube devices, in particular, benefit enormously from operating on these high-tech solutions.

ASTERION V2
PHONO TUBE
PREAMPLIFIER

Update Bullseye

It took me a while to understand what was happening here since I was convinced that the brand-new phono preamp flagship from Canor was designed from scratch. The sound did not permit any other conclusion. However ...

Canor has subtly upgraded the housing of the large new phono preamp

And so I spent a few weeks with this incredibly good machine, diligently plugging cartridge after cartridge into it, and was delighted that the designers had been able to grant the subject significant new impetus. When I finally referred to the test of the largest Canor PH 1.10 phono preamp to date from almost three years ago for comparison, I was a little confused: the differences between the tried and tested machine and the new Asterion V2 are by no means as great as expected from a technical point of view. From a purely visual point of view, the devices even look very similar.

A quick look under the lid also reveals a strong relationship between the two models on the inside, and the differences are not even huge regarding the sales price: the new model is priced at EUR 7200, while the PH 1.10 currently costs EUR 6000. The only noticeable technical difference is on the rear panel, where a pair of XLR sockets for connecting MC cartridges have been installed next to the RCA inputs.

Eight 6922 double triodes in the shielding can provide the amplification

Casing and looks

With a net weight of 18 kilograms and fairly grown-up dimensions, the Asterion V2 leaves no doubt about its qualitative ambitions. The PH 1.10 is no different, but the Asterion V2 is even more beautifully packaged. The powdered U-shaped sheet metal cover has given way to constructing three individually bolted, much more solid aluminum plates so that the exterior of the top preamp/power amp combination is

closer to the in-house „Reference Line.“ In purely formal terms, however, Canor lists both phono preamps in the middle „Premium Line.“ The „V2“ suffix in the type designation is also unclear. This suggests there must have been an „Asterion“ model in the past, but I couldn‘t find anything to that effect. „Asterion,“ on the other hand, is perfectly fine; figures from Greek mythology always work.

Almost everything has remained the same in terms of operation: The superb plain text display in the form of orange LED dot matrix displays is probably the best readable display the hi-fi market has ever produced. The controls are operated via an impressive rotary knob, also illuminated in orange, and several small buttons. The assignment of the buttons has changed slightly compared to the PH 1.10, as the switch between RCA and XLR input for MC operation has been added.

Features

The additional XLR input is a welcome and sensible feature that Canor could implement without any additional effort: MC amplification is handled by a pair of Lundahl transformers, which provide the symmetry virtually free of charge - all that

Teammates

Turntable:
- TechDAS Air Foce III / Reed 3p
- Transrotor Massimo Nero / Studio 12“

Pickup Cartridge:
- Transrotor Figaro
- van den Hul Colibri XGP Grand Cru Elite

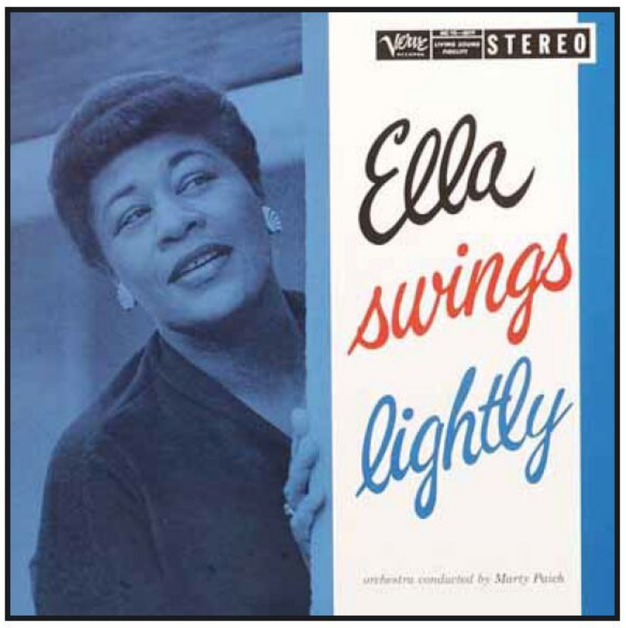
Integrated amplifier:
- Thivan Labs 811 Anniversary
- Unison Simply 845

Loudspeaker:
- Rosso Fiorentino Certaldo
- DIY Focal / JBL

Competitors

Phono preamplifier:
- MalValve preamp three phono
- Clearaudio Balance Reference

The supply and signal sections are neatly separated from each other



Ella Fitzgerald – Ella Swings Lightly

What we played

Ella Fitzgerald
Ella Swings Lightly

Biffy Clyro
Ellipsis

Nina Simone
My Baby Just Cares For Me

Led Zeppelin
How The West Was Won

was needed were appropriate sockets. These transformers can be configured in two ways so that either 70 or 76 decibels of amplification are available in MC mode. „MC1“ and „MC2“ are not two separate inputs but simply two different operating modes of the same input. The eight switchable input impedances are arranged behind the MC transformers, which has consequences for the pickup termination: for „MC1“, there are ten to 1200 ohms; for „MC2“, two to 300 ohms. In MM mode (without transformer), a robust 53 decibels of amplification are available. That‘s plenty, but it doesn‘t do any harm in practice, especially as there are sufficient overload reserves. Here, 47 kiloohms of input resistance are fixed, but the rotary knob offers a choice of eight different termination capacities. A switchable subsonic filter completes the list of features. It cuts in nicely low down and protects bass drivers from excessive excursions. However, this never proved a problem in practice, so I didn‘t use the filter.

The nine tubes are primarily responsible for the device‘s 69 watts of power consumption. Each channel is amplified by four 6922 double triodes hidden under shielding cups. Back in the days when this was still possible, Canor had stockpiled considerable quantities of fine glass from Electro Harmonix so that the devices could be equipped with finely matched goods. Linearity and channel balance are excellent, which could hardly be achieved otherwise. Tube number nine is an EZ81 rectifier, which supplies the high voltage for the signal amplifiers. I can see minimal changes to the circuit board layout compared to the PH 1.10, but otherwise, everything remains the same. The passive components used are still top-notch. I particularly like the tin foil output coupling capacitors from Mundorf. Only the feeding toroidal transformer has been moved to an even more massive shielding container of the kind we know from the Reference Line devices and now resides upright behind the front, giving it a little more distance from the circuit parts at risk of interference.

Sound

Sometimes, devices simply make their case. Without any effort or elaborate comparisons, just like that: plug it in, switch it on, put on some music, and drop your jaw. This rarely happens, but it was the case here. The Transrotor Figaro supplied the signals, the final impedance was set to an estimated 150 ohms, and I was simply stunned by what the combination conjured up

Signal connections are now symmetrical on both the input and output sides

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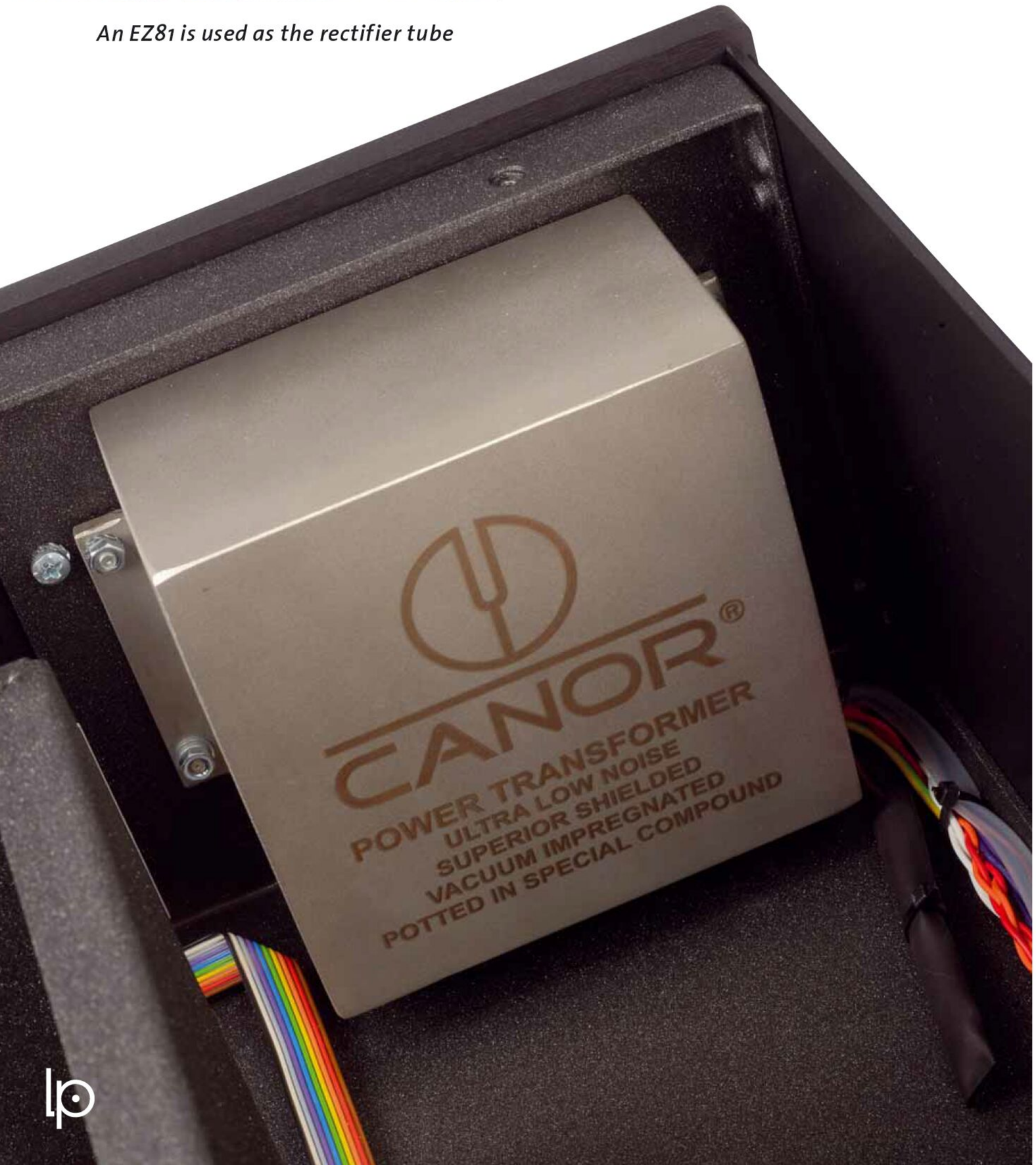
from the groove of „Ella Swings Lightly.“ Of course, the 2010 reissue of the classic sounds excellent anyway, but this was a really serious affair. The rhythmic perfection is immediately noticeable; the singer and orchestra play together to a degree I have rarely experienced. The distribution of the instruments in the room is strikingly well-circulated, the stage is vast, and the singer is perfectly centered in the middle and gives her all. And all of this is achieved with that natural looseness that occurs when hi-fi stops and listening to music begins. Despite all its qualities, I don‘t want to offend the PH 1.10, but I don‘t believe that it played in such an unashamedly relaxed and light-footed manner at the time. How did the designers achieve this without any noticeable structural changes? I have no idea.

Measurements

Lab commentary

The big Canor performs at a high level in terms of measurement technology. The MM frequency response is exemplary linear. In MC mode, there is also no significant drop in the bass. The transformers "deliver" down to 35 kilohertz without complaining. In MM mode, the amplification is a hefty 53 decibels; in MC mode, it is a maximum of 75 decibels, which is also plenty. The signal-to-noise ratios are 67/58 decibels(A) in MM/MC (5/0.5 mV), and the channel separations are in the same range. The distortion factor is 0.05/0.28 percent, which is also very good. The device consumes a steady 69 watts of power during operation.

An EZ81 is used as the rectifier tube



The Scottish rockers from Biffy Clyro emphatically proved that this also works with less audiophile material. The Canor provides guts, power, fervor, excellent vocal delivery, and remarkable fluidity. Just between you and me, this is one of the best phono preamps I can remember. I only dare to make this statement after I have mounted a large van den Hul cartridge in my home setup and convinced myself that the extremely harmonious gait of the Asterion V2 was reproducible and that the perfect ease was also allowed to move in here.

Holger Barske

The thoroughly encapsulated toroidal transformer is located behind the front panel

Canor Asterion V2

· Price	ca. 7,200 Euro
· Distribution	IDC Klaassen, Lünen
· Phone	+49 231 9860285
· Internet	canor-audio.de
· Warranty	2 years
· Dimensions (W x H x D)	435 x 170 x 485 mm
· Weight	approx. 18 kg

Canor
Asterion V2

International 1/24

» What a phono preamp! Canor's new one shines with stunning spatial imaging, excellent fine detail, and rhythmic finesse. It doesn't get any better than this!

Turn-it-all

I'm certainly not the only one whose analog hi-fi journey began with a Thorens TD 160. Decades later, I have a TD 1601 in front of me – and I'm getting a little sentimental.

THORENS
TP 160
2
2,5

The TD-1600 / 1601 looks almost dainty, but don't be fooled; this is still a compact but massive drive

What was once an Audio Technica ART-9 cartridge looks exceptionally good in the noble red, also sound-wise

Without vanity

I looked up the definition of sentimentality and found this: „Sentimentality is a form of emotional self-stimulation without impetus for action.“ That‘s not what we want because the pretty Thorens should inspire many readers to do more than „self-stimulation.“ Thorens boss Gunter Kürten personally brought us the TD 1601 with the brand new TP 160 tonearm, and it was a treat. If you don‘t know the man, you‘ve missed a positively crazy music lover who really lives his products. By the way, you can already tell that from the fact that Kürten is the owner of Thorens and, as such, makes all decisions on his responsibility.

Again?

You should be surprised by this report because we had already covered this record player three years ago. At that time, however, it was still equipped with the TP-92 tonearm, which Gunter Kürten took over from the previous Thorens era. Conveniently, it had also been developed in the Fink team by Helmut Thiele, who is also responsible for the new tonearm. Until further notice, the TD-1600 / 1601 (the same

one with limit switching) will be available with the tried and tested TP-92 and, in parallel, with the new TP 160. The new arm alone costs EUR 1800. The conversion to the TD 1600 / 1601 with the replacement of the TP-92 costs a fair EUR 1200 and is only carried out by Thorens itself. Before you ask, the conversion is not done by simply replacing the arm, as the arm board and sub-chassis have to be replaced. Speaking of new – there are also a few things to say about the TD 1601 that didn't find a place in the previous article, and some minor changes have been made.

Subchassis de Luxe

The TD 1600 / 1601 remains a sub-chassis player, but not a completely normal one. First, it doesn't bounce as much as some of its competitors, making it much more pleasant to handle. And then it has had a unique feature built-in right from the start, which, as far as I know, is unavailable anywhere else. Basically, the turntable is decoupled with a standing sub-chassis, which has to be adjusted from below, similar to the Linn LP-12, although it is not suspended like there. The motor box is also mounted standing on the base plate and can be moved in the frame. I don't quite understand what this is supposed to be good for because either you buy a new belt or use the rear fine adjustment screws for the speed if the old one is worn out and the new one has not yet been delivered. The investment for a new belt can't be a problem. In any case, the motor is decoupled by a thick silicone disk.

But now, there is the unique feature I have never seen on any other commercially available record player: a metal cable fixed opposite the motor on one side to a pin on the base plate and on the other side to the platter bearing. It opposes the belt's tensile force with an adequate counterforce to prevent the sub-chassis and the bearing and platter from wobbling horizontally or oscillating. The sub-chassis is also reinforced with an aluminum plate, which provides a desirable, rigid connection between the tonearm and platter bearing. And, of course, the wire rope is also damped, as you don't want to insert an instrument string here. The platter axle is made of hardened steel with a stainless-steel ball fitted to the underside, which rotates on a Delrin mirror. With its grease lubrication, the bearing is practically maintenance-free – but there is no harm in checking and lubricating it once every 10 or 15 years.

Teammates

Preamplifier:
· Parasound NewClassic 200 Pre

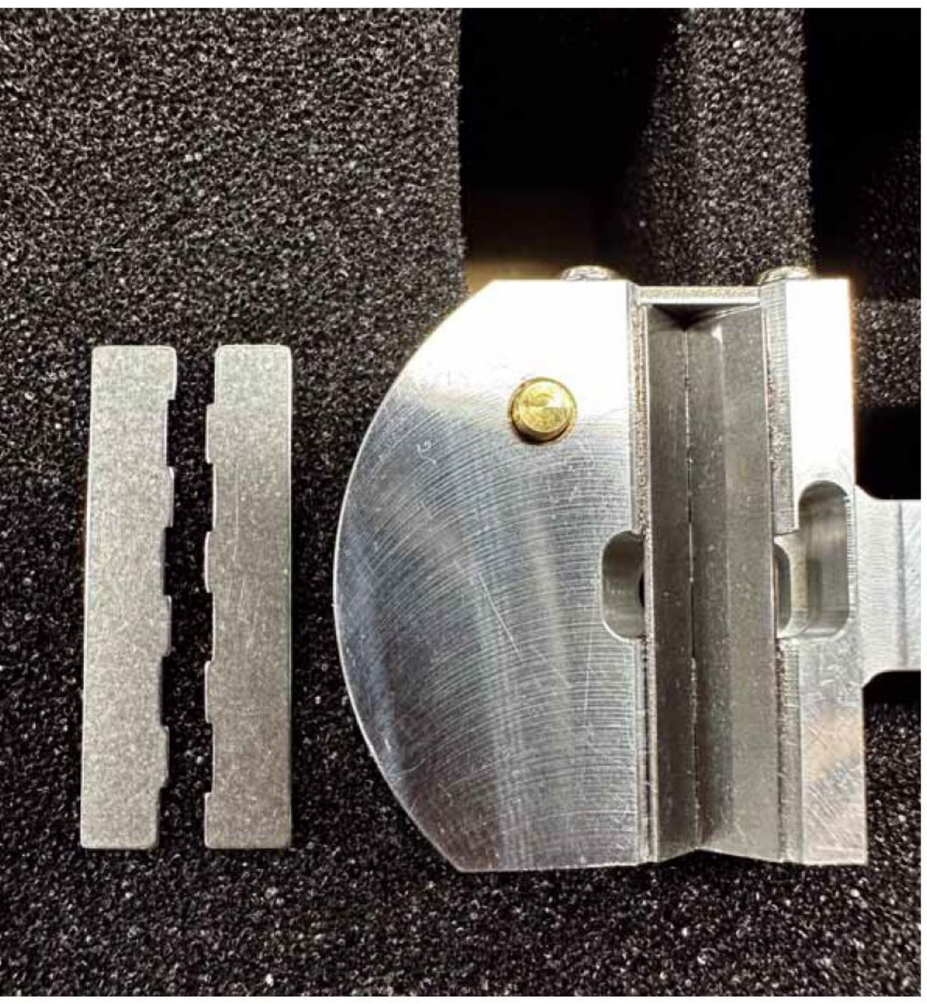
Power amplifier:
· Parasound NewClassic 275 V2

Phono preamplifier:
· Canor Asterion V2

Loudspeaker:
· Rosso Fiorentino Certaldo S2

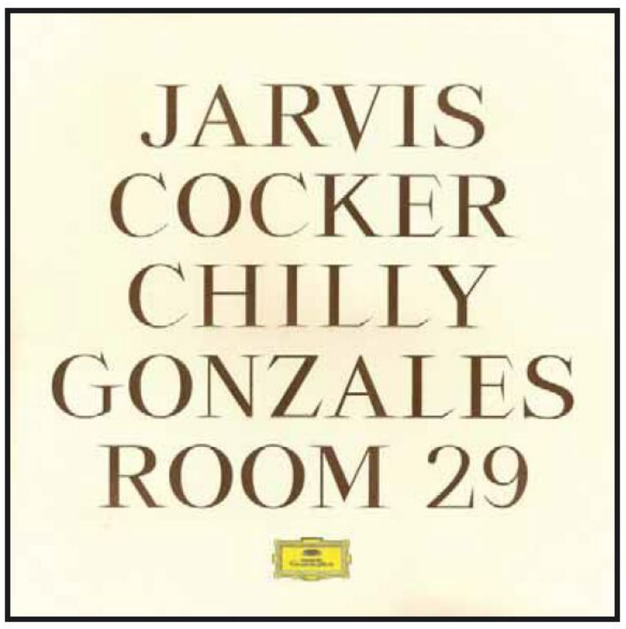
Competitors

Turntable:
· Transrotor Massimo Nero /
Tonearm: Studio 12



he soon-to-be interlocked individual parts for the cutting bearing before they are glued and pressed together

The TP 160 in all its length and splendor. It can also be retrofitted, but only by Thorens



Jarvis Cocker / Chilly Gonzales – Room 29

What we played

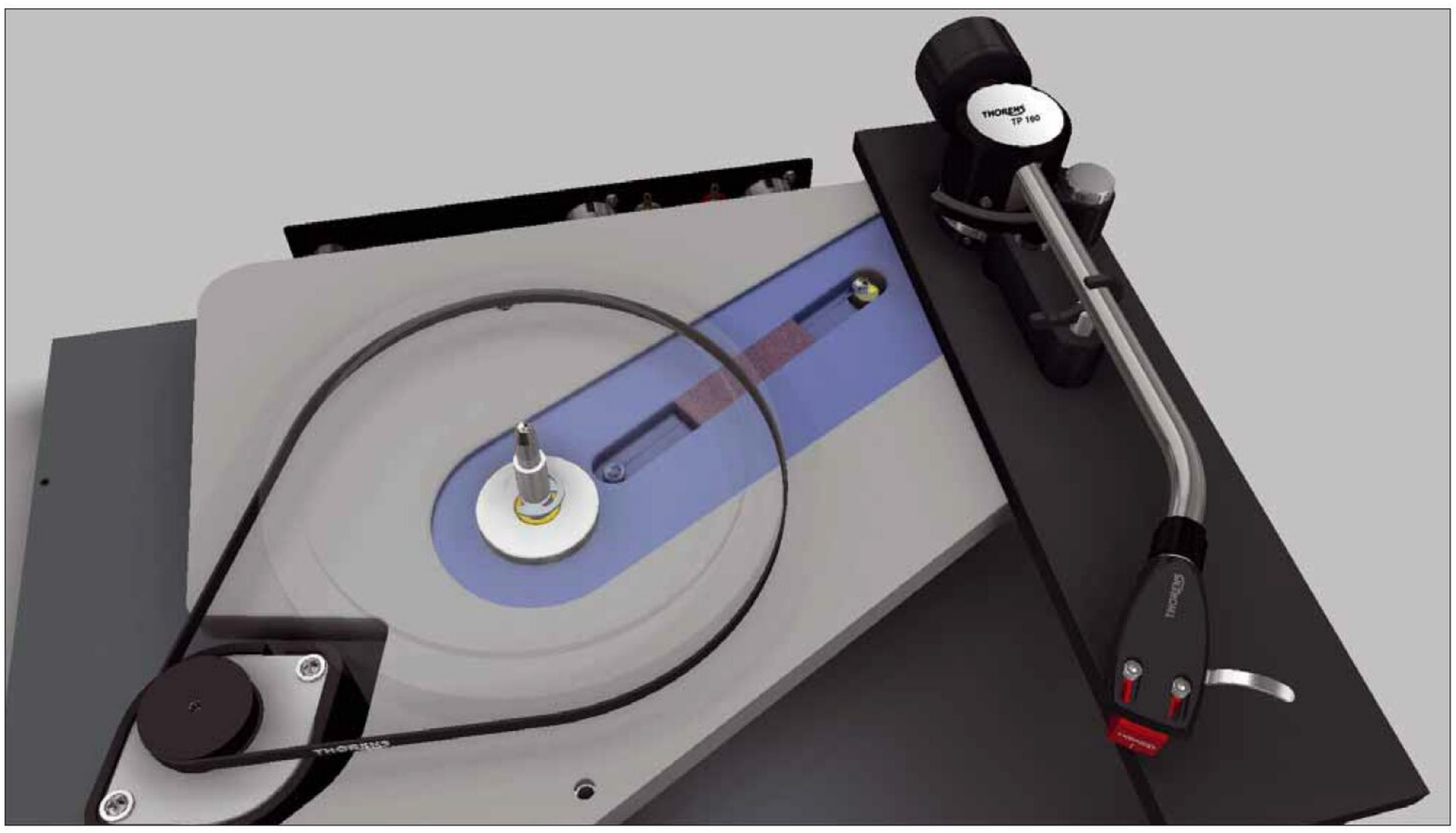
Vladimir Ashkenazy
Beethoven Konzert für Klavier und Orchester Nr. 5 Es-dur

Jarvis Cocker / Chilly Gonzales
Room 29

Led Zeppelin
How the West was won

The Allman Brothers Band
At Fillmore East

The Beatles
Let it be ... naked

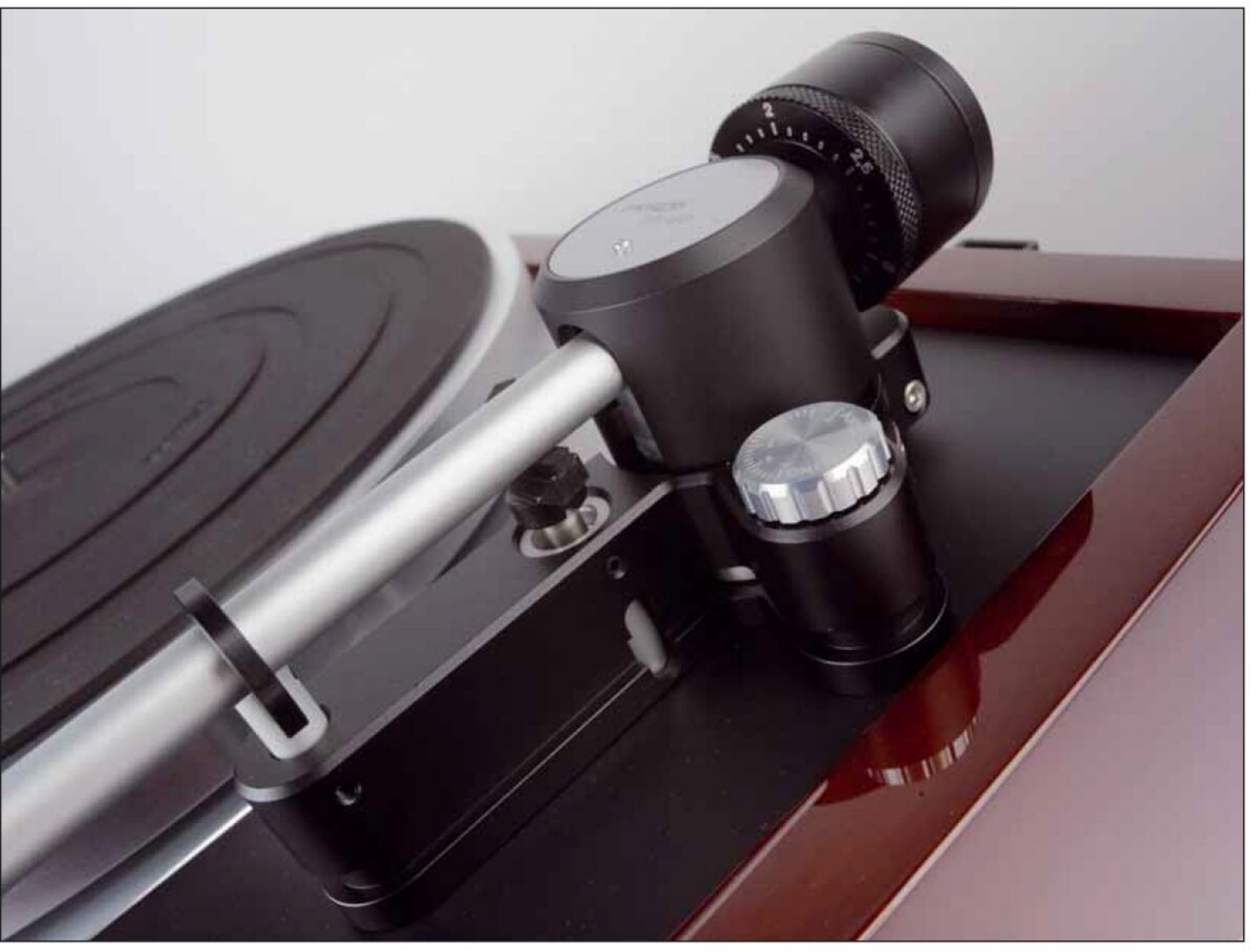


This is the solution with the metal cable, which prevents the sub-chassis from wobbling and rocking. It sits together with the damping in the blue recess

Further refinement

The metalworking at Thorens' Taiwanese partner has improved once again, which can be clearly seen on the sub and platter: it looks mouth-watering. The anti-skating on the tonearm is no longer realized magnetically, as with the TP-92, but with a classic spring. The magnetic solution seems to have overwhelmed some users. We find it very commendable that Thorens responds to user requests. The contact point of the limit switch can now be adjusted from the outside with a set screw behind the tonearm. This may be necessary for LPs that are cut far inwards. The motorized lift is now much quieter than the one on the TD 124 DD, and yet, I must admit, I wouldn't need it. As an old analogy, my hand al-

Nothing has changed at the connection terminal: RCA and XLR connectors as well as for the power supply and the fine adjustment screws for the speeds



You can already see here that the metalworking is top-notch. Even tastier in reality

The new TP 160 tonearm looks as if it has always been there. Technologically, however, it is state of the art

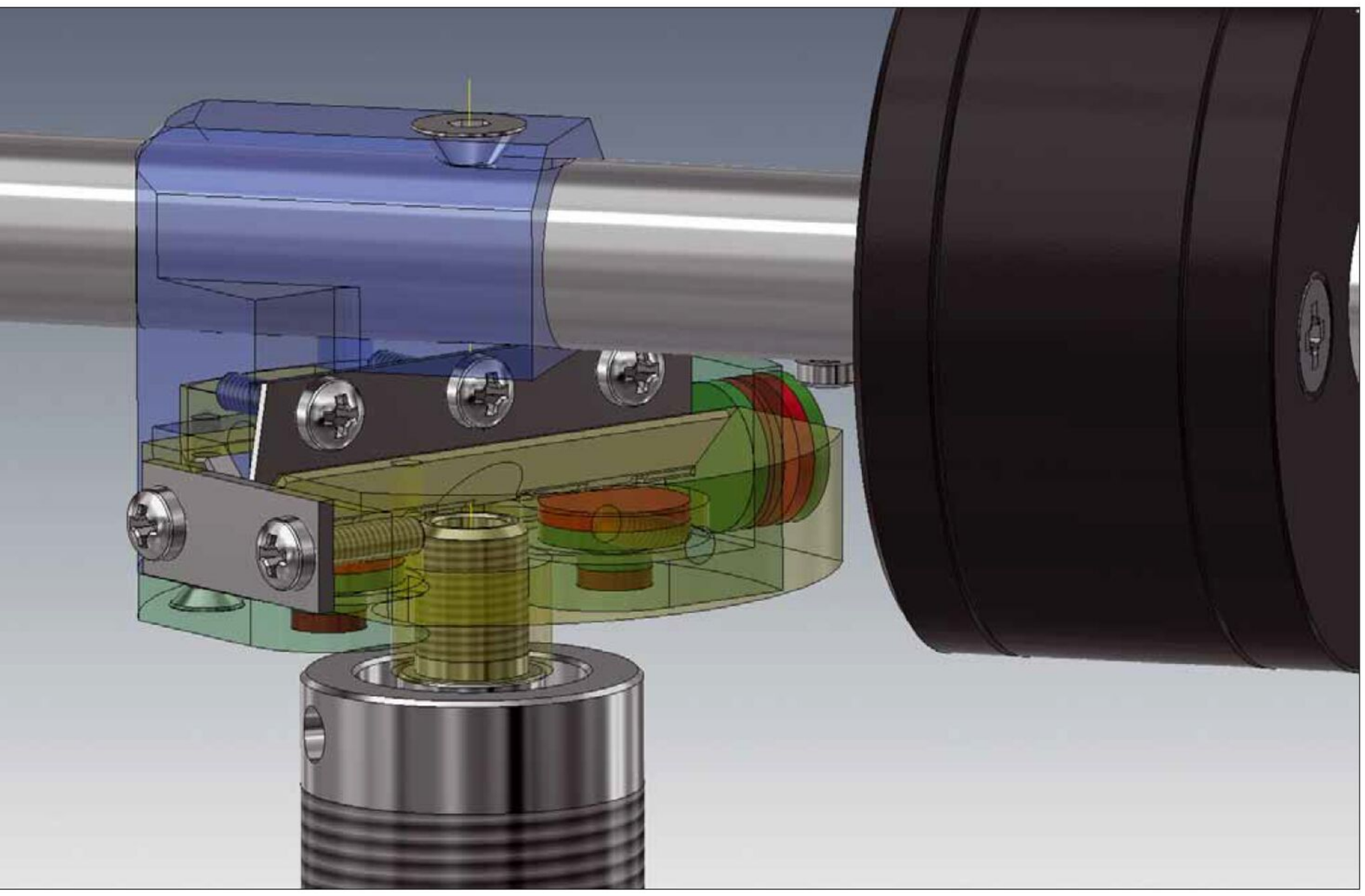
ways twitches towards the manual lift, but it's not there. So I do it by finger lift, but I only recommend this to experienced users. However, how about a remote control for the lift? The LED display is pretty cool: red when the arm is down and green when it's up.

The new arm

Has there ever been such a thing? A tonearm with a magnetically stabilized blade bearing? I think not. Do you need something like that? Apparently. We have seen photos of the lady who glues the blade bearings. This work and the entire production process appear to be of excellent quality. The two parts forming the „trough" in which the blade cutting bearing rests are serrated and interlock. They are then glued and pressed together. Various neodymium magnets are arranged around the bearing to effectively prevent horizontal and vertical „break-out" of the arm. The J-shaped tonearm tube made of aluminum is naturally damped. Unlike the TP-92, there is an SME-compatible connection for optimum compatibility with different headshells. The VTA can, of course, be adjusted, as can the azimuth.

The scaled, two-piece counterweight is well known and can balance cartridges of up to 30 grams with its variable additional weight. With an effective tonearm

The motor with its massive pulley for the belt is perfectly damped on the base plate. Its running smoothness is exemplary



Here, you can see the magnetic stabilization of the metal cutting bearing from below and the side

mass of 14 grams, the TP 160 can be used universally. Three years ago, the Thorens TAS 1600 cartridge was brand new with its attractive housing, stylus carrier, and line contact diamond, but it is now well established. However, it has not yet been established that it is the Thorens version of the Audio Technica ART-9 cartridge, as there have been various speculations. Its red anodized aluminum housing primarily distinguishes the TAS 1600. 0.6 millivolts output voltage and 12 ohms internal resistance are easy to amplify. The supposedly optimum termination of 100 ohms cannot be set on the Canor. It has to be 80 or 150 ohms, but the difference is marginal. I kept it at 150 ohms. This modern MC was already an excellent match for the TP-92 back then, and it fits at least as well with the TP 160. Have I already mentioned the new CA 800 traveling brush? Yes, Thorens has done that, too, and has thought of everything. Goat hair, height adjustment, and adjustable contact force – cleaning has never been so effective.

The counterweight is in three parts: the knurled wheel at the front for fine adjustment, the large weight in the middle, and the additional weight at the back

Here we go

So now it‘s standing in front of me, making a rather dashing impression. A little vain, perhaps, which may be due to its high-gloss lacquered frame. I read in the analog forum that Gunter Kürten has put together a test batch of frames made of oiled oak. This version gets two thumbs up from me, it would undoubtedly be one of my favorites. But how does he play with his new tonearm? What amazes me from the very first notes is the sense of calm it conveys, not least in classical recordings such as the Beethoven Concerto for Piano and Orchestra No. 5 in E flat major with Vladimir Ashkenazy and Sir Georg Solti. The chords stand rock-solid in the room, the tutti blares, and the glissandi sparkle. I have never heard a performance like this from a traditional sub-chassis player. This character is also evident in „Room 29“ by Jarvis Cocker and Chilly Gonzales. On „Tearjerker,“ Cocker sits right before me and tells me this sad and ironic story in a way that makes it more understandable than ever: „You don‘t need a girlfriend, you need a social worker.“ Wow. And wow again with Led Zeppelin and „Whole lotta Love“ from „How the West Was Won.“ This is no coffee party, and the Thorens, with its new arm, makes that abundantly clear. Nothing is rounded off or glossed over here; it‘s an attack right in the face – powerful.

Christian Bayer

Thorens TD 1601 / TP 160

· Price	ca. 3,999 Euro (TD 1601) ca. 3,499 Euro (TD 1600) ca. 1,199 Euro (TAS 1600)
· Distribution	Thorens, Bergisch Gladbach
· Phone	+49 2204 8677720
· Internet	www.thorens.com/de
· Warranty	2 years
· Dimensions (W x H x D)	454 x 180 x 369 mm
· Weight	approx. 11 kg

lp
International 1/24

Thorens TD 1601 / TP 160

» Thorens makes a real statement with the well-known TD 1600 / 1601 and the new TP 160 tonearm. The competition will have to prepare themselves.

In a Perfect World

In a perfect world, this story would not be told. Because the loudspeaker we are talking about would not exist in this form.

This is the first time in the almost 20-year history of this magazine that we have received a product from the Odenwald-based manufacturer Avantgarde Acoustic for a review. It is a loudspeaker with the type designation Duo SD. The central feature of all Avantgarde loudspeakers is using horns over the widest possible frequency range. The type designation includes the number of horns used; the model series are Uno, Duo, and Trio. Although this simplifies the matter, it should be enough to get you started.

The Duo SD, therefore, uses two horns. The manufacturer generally relies on round spherical wave horns made of plastic, which have become a trademark of the Hessian company throughout the years and decades. The Duo SD, although positioned lower down in the product hierarchy, is not a cheap treat: The basic version costs around EUR 37,600, but this does not include a crossover for the mid-high range, which is available per pair

The horns of the Duo SD are available in 12 different colors. The cabinet comes in two designs

The tweeter takes over from 3.5 kilohertz onwards

for about EUR 2600 – if you want it. The main reason we are discussing this transducer is the alternative to the passive filter: Avantgarde Acoustic has found an entirely new approach to actively operating the speaker with its amplifier technology called „Itron.“ If you want to go down this path, you'll have to fork out another EUR 15,200 on top of the base price. Therefore, a pair of fully active Duo SD speakers costs around EUR 53,000, while the passive version costs around EUR 40,000. However, even the passive version is not really passive, as an active bass module is responsible for the low tones in both cases.

The low-frequency part

This is housed in the lower part of the cuboid, which, in our case, is painted glossy black. You can't see much of it from the outside because the twelve-inch front-firing speaker is located behind a baffle cover that is not intended to be removed; the associated vent emerges from the speaker's underside. The woofer is a unique design with a huge 15-centimeter voice coil and a magnet system that is mainly housed inside. It is highly resilient, which it needs to be since a 500-watt amplifier module drives it. This goes by the name of G3-500 and has a powerful digital signal processor that allows the bass reproduction to be finely adjusted to the room and taste. You can set the parameters via a connected PC, which is usually the responsibility of the specialist dealer. A modern switching amplifier with compact dimensions and low power dissipation controls the woofer.

Teammates

Turntable:
· Transrotor Massimo Nero / Studio 12“

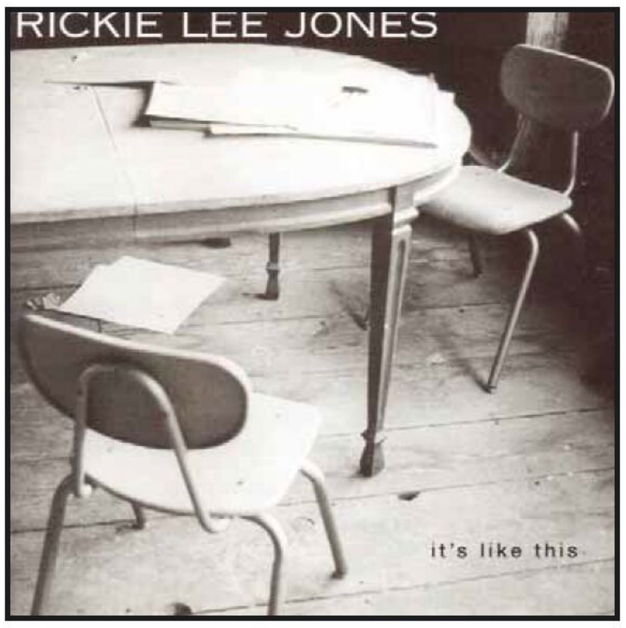
Pickup Cartridge:
· Transrotor Figaro

Phono preamplifier:
· Canor Asterion V2

Preamplifier:
· Avantgarde Acoustic

Power amplifier:
· Avantgarde Acoustic

The tweeter funnel is recessed as closely as possible into the front of the enclosure



Rickie Lee Jones – It's Like This

What we played

Rickie Lee Jones
It's Like This

Alber Jupiter
We're Just Floating In Space

John Coltrane
Coltranology Vol. 2

Paul Kuhn Trio
Live At Birdland

The connection panel of the subwoofer module

The connection panel of the Itron aktiv module

The mid-/high-range section

From 170 Hertz, Avantgarde Acoustic uses a spherical wave horn with a diameter of 670 millimeters in the Duo SD. A custom-made 170-millimeter driver called „XM2“ generates the sound energy. It has a powerfully dimensioned AlNiCo magnet and a compound cone with a massive dust cap. This fits precisely on the neck of the horn in front of it, which ensures perfectly controlled acoustic coupling.

The tweeter also has a spherical horn, in this case, one with a diameter of 200 millimeters. Behind it is a driver called XT3, which emits its sound via a ring-shaped cone. This arrangement delivers an impressive efficiency of 107 decibels and comes into play from 3.5 kilohertz.

This output is of the same order of magnitude as the mid-range section and is far louder than what the bass section can deliver. A passive separation between all three branches would hardly make sense, so it is only logical to control the bass section actively.

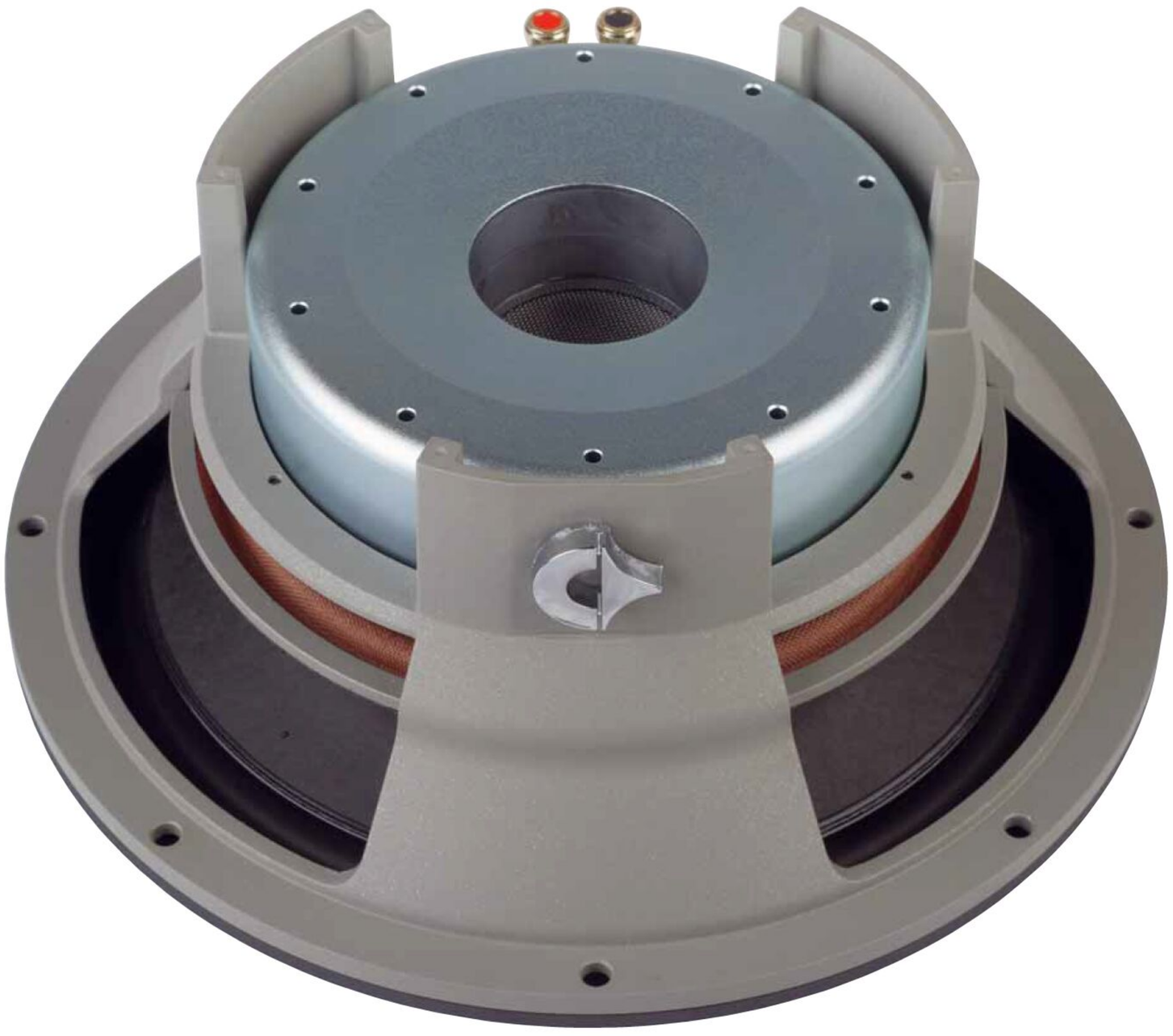
Filter technology

You have a choice regarding the separation between the two horns. The more straightforward solution is a passive filter, which nevertheless contains a lot of technology: Avantgarde has oil paper capacitors specially manufactured for this filter and also uses „biased“ filters, in which a DC voltage keeps the capacitors constantly powered – the manufacturer calls this feature „PolarizationPlus.“

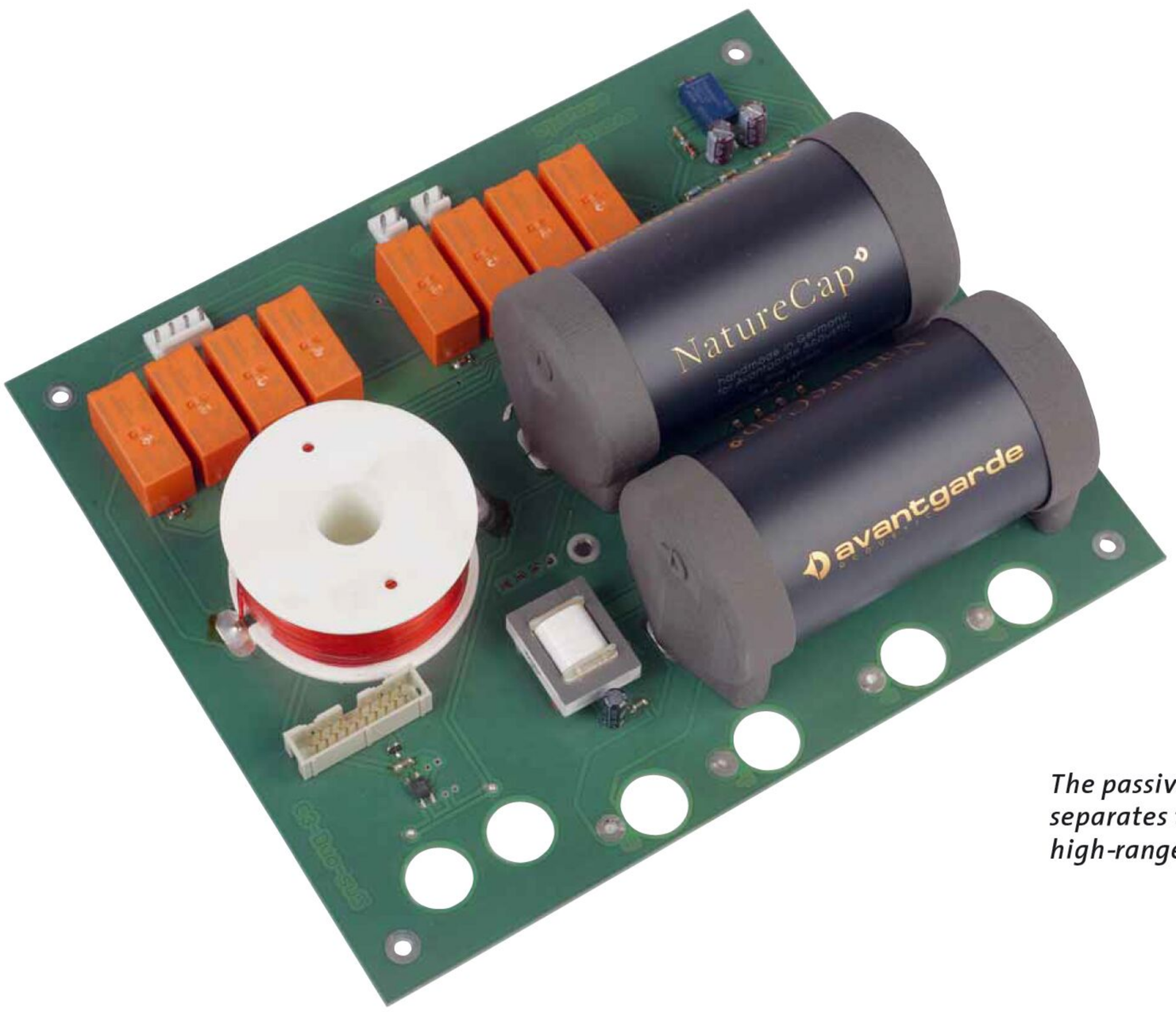
The passive crossover is mounted in a slide-in unit that is accessible from the rear of the speaker. Various relays on the crossover board can be used to eliminate the filters from the signal path. What is vital for the version of this speaker that we have here is that it can be switched between the passive and active modes.

The mid-range horn operates from 170 Hertz upwards

The castors under the speakers can be replaced by stable feet



The woofer works with a massive 15-centimeter voice coil



The passive crossover only separates the midrange and high-range speakers

And that brings us to the crucial topic of this article, namely the active operation of the Duo SD's mid-high range. If you choose this option, you get an additional slide-in unit mounted in the rear of the speaker, which houses two unique amplifiers and the preceding filter network. You can use toggle switches to fine-tune the SPL of the mid-range and high-range individually and also vary the overall amplification. The filters themselves are fixed.
The entire system is controlled via an XLR cable per speaker from the preamplifier. The wiring for the switchable test pair is somewhat more complex, and there is also a (wired) one-button remote control that can be used to switch between the two operating modes.

Itron technology

The amplifiers that drive the mid-range and tweeters are the major innovation in the new Avantgarde speaker generation. Unlike practically all amplifiers on the market, they do not work as a classic voltage source but as a current source. With such an amplifier, it is not the electrical voltage that transmits the image of the music signal to the loudspeaker but the current. A voltage amplifier would be perfect if a loudspeaker were a technically flawless entity with a constant impedance over the entire frequency range. In the real world, however, it is not.
Its impedance changes with frequency, volume, and temperature. What the loudspeaker controlled in this way emits has only a limited connection with the signal that the input voltage specifies. This results in level fluctuations, distortion, and other types of unpleasantness. In fact, the electrical current flowing through the loudspeaker is a more suitable quantity to give the loudspeaker the signal to be radiated

– which is precisely what the Itron amplifiers do. Current amplifiers are high-impedance: their output signal is not interested in the hassle that the loudspeaker puts in its way via its impedance. It calmly drives the specified current through the voice coil and is not interested in anything else – not even things like cable influences.
This works well – within certain limits. It does not work well with multi-way loudspeakers with complex crossovers or woofers that operate in the range of their resonance frequency (hence the „conventional“ control of the bass loudspeaker). However, current source operation works excellently with simple full-range speakers or, as here, with drivers that only need to run in the good-natured impedance range. Avantgarde developer Mathias Ruff has created cleverly designed, electrically appealing, and simple power amplifiers for this purpose, which do the job with flying colors. Is it worth the effort?

The mid-range driver works with an impressive AlNiCo magnet system

FINK team
BORG
EPISODE 2
FINKTEAM.COM
Couldn't be better?
WELL, WE MASTERED IT.
FINKTEAM, MAXSTRASSE 75, 45127 ESSEN, GERMANY, TEL: +49 (0)201/236412, INFO@FINKTEAM.COM, WWW.FINKTEAM.COM

In our case, the passive crossover sits at the top of the cabinet

Sound

Damn. I have to admit – I missed that. I haven‘t had an Avantgarde in my listening room for a long time. Which, as I soon realized, is a rather unfortunate circumstance. As a confessed horn fan, I discover a lot of qualities here without which I would no longer want to listen to music, at least in my private life. It is this ability to illuminate structures to a degree that is simply not possible with other types of sound radiation. Every molecule that floats around on the bottom of the groove – this speaker makes the corresponding needle deflection audible. I sit about four meters from the loudspeakers in our listening room. This is actually too little for such a design with relatively widely distributed sound-emitting centers, which makes for abundant size imaging – at least in semi-active mode. After switching to Itron mode, the picture changes noticeably: the room is undoubtedly more extensive, the speakers recede further into the background, and the action seems to lose a little of its drama - but only seemingly. Rickie Lee Jones‘s unmistakable organ on „It‘s Like This“ is less spectacular but more compact, discreet, and realistic. The „horn character“ still attributed to the loudspeaker in the passively operated mid-high range has practically disappeared entirely with the Itron modules. It sounds almost like what I‘m used to from my Multicell wooden horns at home.

It is difficult to say whether voltage or current control is right for you. With classic control, the Avantgarde funnels sound noticeably more spectacular, with a little more power and punch at the ends of their frequency range; in current mode, they sound more delicate, controlled, and discreet. This is even noticeable in the powerful French stoner rock of Alber Jupiter. The difference in the sound of the percussive drum elements in both modes is particularly noticeable here. And: the band‘s escalating trips seem more relaxed, freer, and more natural in powered mode. This doesn‘t affect the bass in either case. And I have to say, the ventilated system looks excellent underneath the two funnels. Indeed, a horn-loaded woofer would certainly grant the system an even dryer and punchier bottom end. Still, the bass is deep and, probably even more importantly, largely freely adjustable. The bass can be adjusted in many ways to suit the listener‘s taste and the room‘s acoustics, thanks to DSP control. You never get the impression that the bass is lagging behind the rest of the sound. On the contrary, the bottom end sounds rich and powerful, which is perfect. And for those who prefer a leaner and more wiry sound, the setup can help.

Holger Barske

Avantgarde Acoustic Duo SD

· Price per pair	from ca. 40,000 Euro
· Distribution	Avantgarde Acoustic, Lautertal-Reichenbach
· Phone	+49 6254 306100
· Internet	avantgarde-acoustic.de
· Warranty	2 years
· Dimensions (W x H x D)	670 x 1552 x 652 mm
· Weight	approx. 94 kg

lp Avantgarde Acoustic Duo SD

International 1/24

» Avantgard's Itron technology audibly tames the Duo SD's horns and ensures an extremely spacious and pleasant soundscape but leaves room for drive and impulsiveness. A system like this is a genuine experience!

Assimilated

With the "Borg" model, the Essen-based manufacturer Fink Team launched its statement on two-way floor-standing speakers in 2018. Now, there is an upgrade that significantly improves the concept.

The „Episode 2“ can be identified visually by the base plate tapering towards the rear

Background

As is well known, Karl Heinz Fink and Norbert Theisges earn their livelihood primarily by building loudspeakers for other people. In other words, with „Fink Audio Consulting,“ they run one of the most renowned service providers on the market when it comes to implementing loudspeaker projects. However, the gentlemen get itchy fingers from time to time, and then they build exceptional loudspeakers for their portfolio. These can then be purchased under the „Fink Team“ label. For example, the compact „Kim“ is one such creation, which we have already featured in detail here. This is our first „official“ encounter with the Borg model but by no means my first experience with the speaker. I poke my nose into Fink‘s domicile occasionally and always get to see what‘s cooking in the developer‘s kitchen. And I got to see the development of „Episode 2“ up close and personal.

There are a few pleasing things to report during the update development – apart from the fact that the new variant represents a significant sound improvement. The sales price has remained unchanged: the Borg Episode 2 costs EUR 30,000 per pair in all possible finishes. And there is the possibility of an update. You can make the original Borg into a full Episode 2. To do this, it has to be returned to the manufacturer, where the rear connection plate, the base plate with the crossover mounted on it, and a few other small things are replaced. The update costs EUR 4000 per pair and is an excellent idea.

The Borg's woofer is a real big hitter when it comes to motors

A few of the gems used on the crossover of the „Episode 2“. The potted transformer at the top is still a prototype

General information

The Borg – no matter which version – is a 1.05-meter-high and 52-kilogram two-way floor-standing speaker with a ten-inch midbass driver and an AMT tweeter. The two drivers are housed in a massive, thick baffle, the complex shape of which is driving the cabinet manufacturing operation increasingly insane. However, the structure, which looks like stealth technology, had to be there because it is partly responsible for the speaker‘s excellent omnidirectional sound distribution. The cabinet is a double-walled MDF construction with a gel-like adhesive between the two layers for excellent damping properties. This gives the speaker the lowest-vibration cabinet I have ever encountered.

Driver technology

The two drivers are specially designed for this speaker. This is standard practice at Finks; the professionals rarely take their components „off the shelf.“ There is practically always something for the intended application. The Borg‘s bass driver is an entirely new design. Fitted with a coated paper cone, the driver has an impressive motor that, at first glance, makes it look like a full-blown midrange driver for sound reinforcement applications. However, Karl Heinz Fink puts a resistor in front of the driver, which pushes the otherwise far too low total Q of the driver back into bass-suitable regions. Although this is a costly way to build a woofer, the designer swears by the fact that it simply sounds better.
While the bass driver is manufactured in the Far East, the tweeter comes from Cologne: the Air Motion Transformer is made by Mundorf and contains a whole range of design tricks not found in any production model.

Filtering

The Borg crossover is the area that underwent the most significant changes in the Episode 2 update. This affects not only the components used but also substantial structural changes. In the meantime, Fink has discovered that the way in which

Teammates

Turntable:
· Transrotor Massimo Nero / Studio 12“

Pickup Cardridge:
· Transrotor Figaro

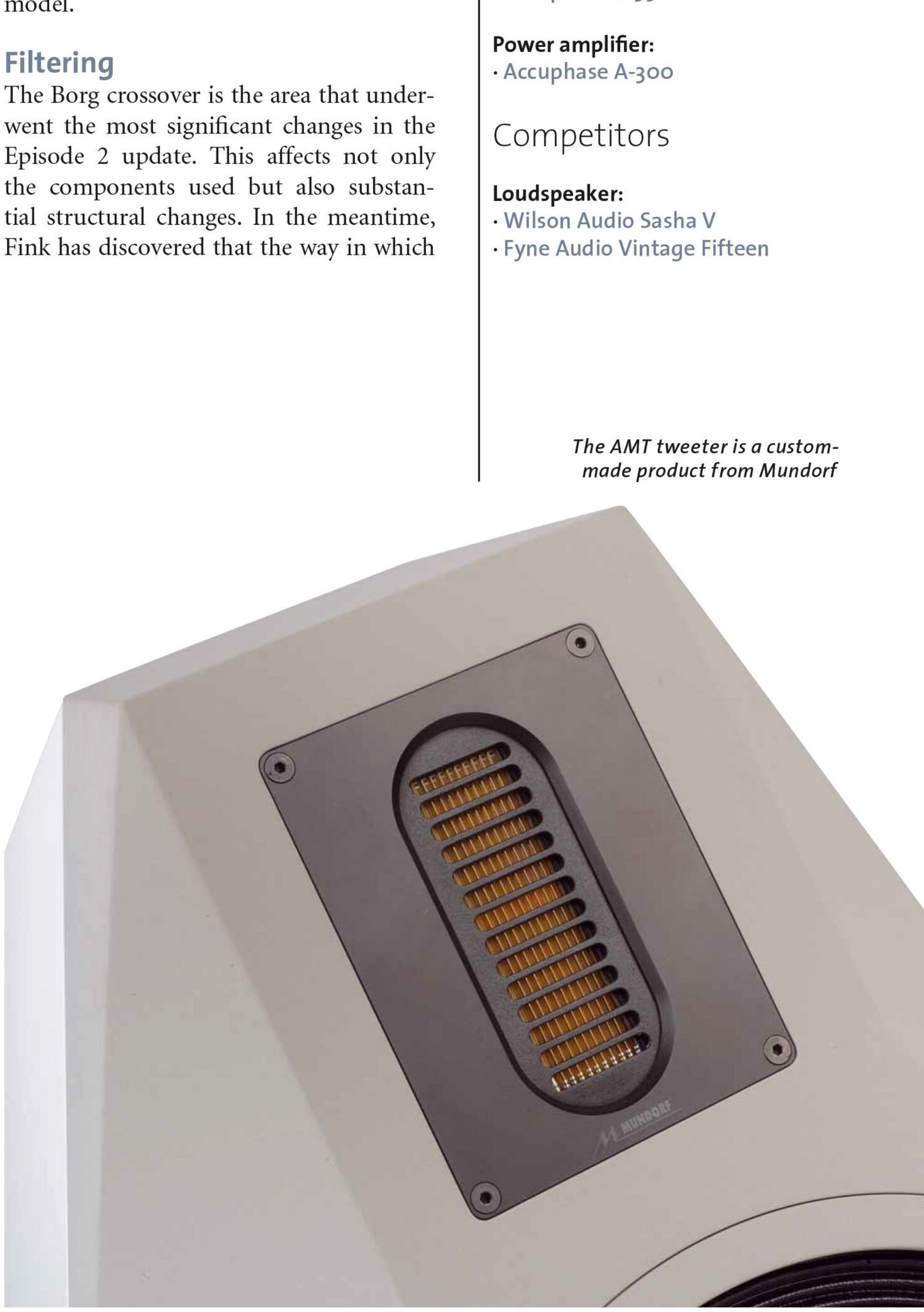
Phono preamplifier:
· MalValve preamp three phono

Preamplifier:
· Accuphase C-3900

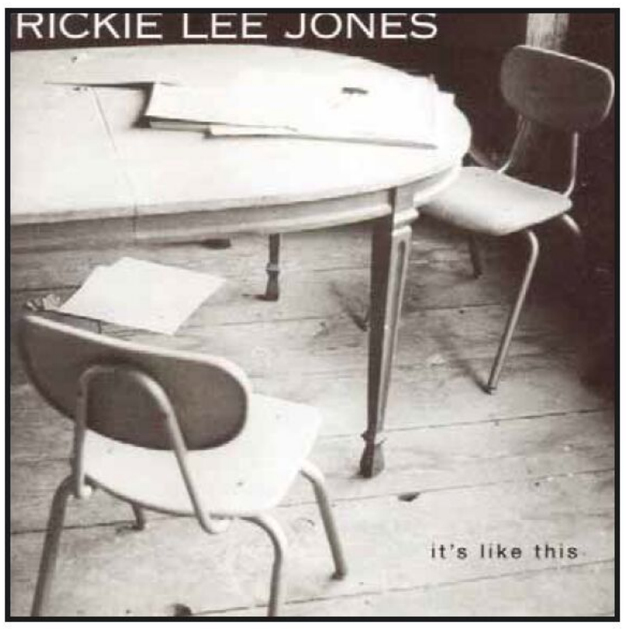
Power amplifier:
· Accuphase A-300

Competitors

Loudspeaker:
· Wilson Audio Sasha V
· Fyne Audio Vintage Fifteen



The AMT tweeter is a custom-made product from Mundorf



Rickie Lee Jones – It's Like This

What we played

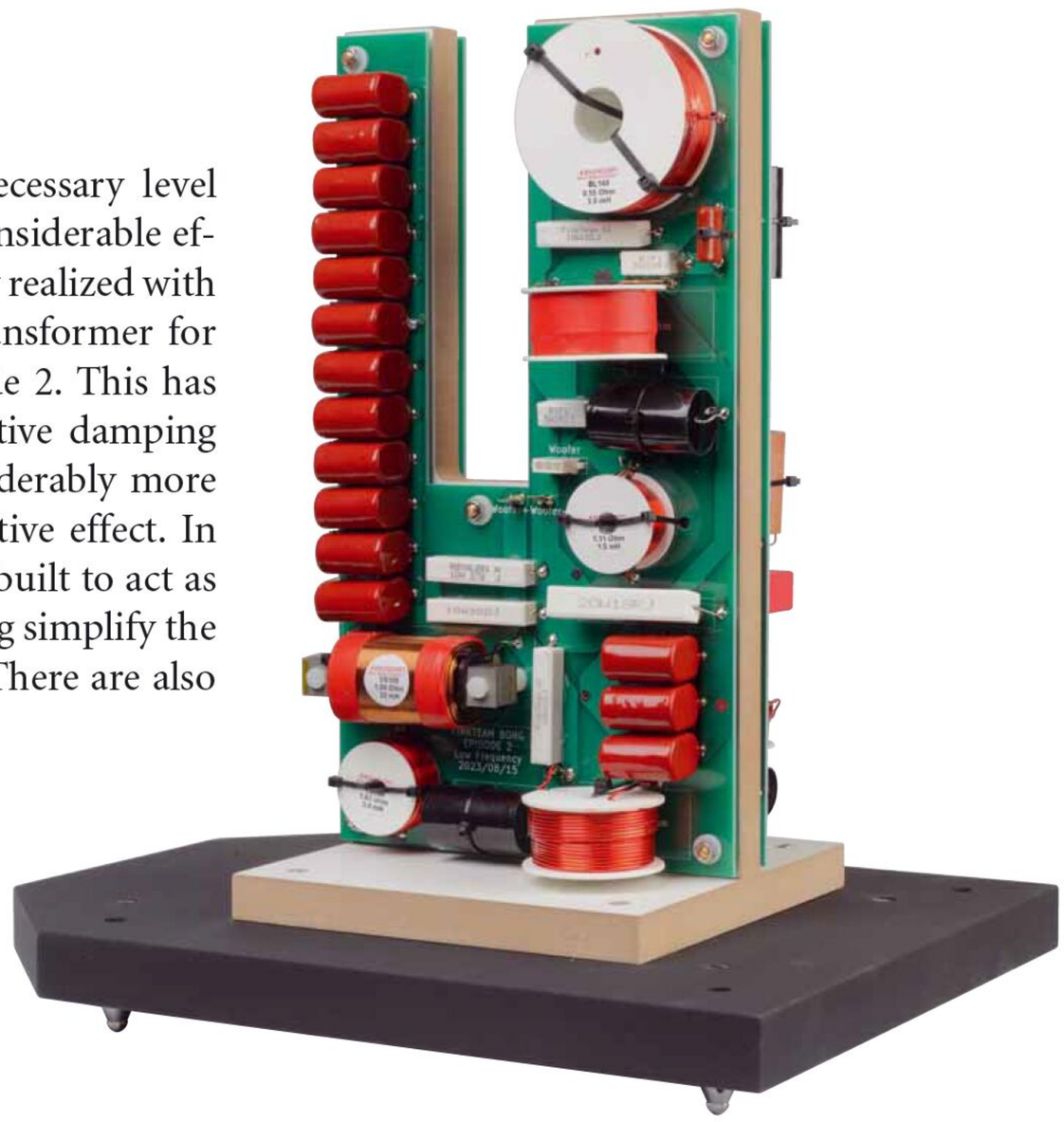
Rickie Lee Jones
It's Like This

The Blackwhitecolorful
Brace For Impact

Fleetwood Mac
Rumours

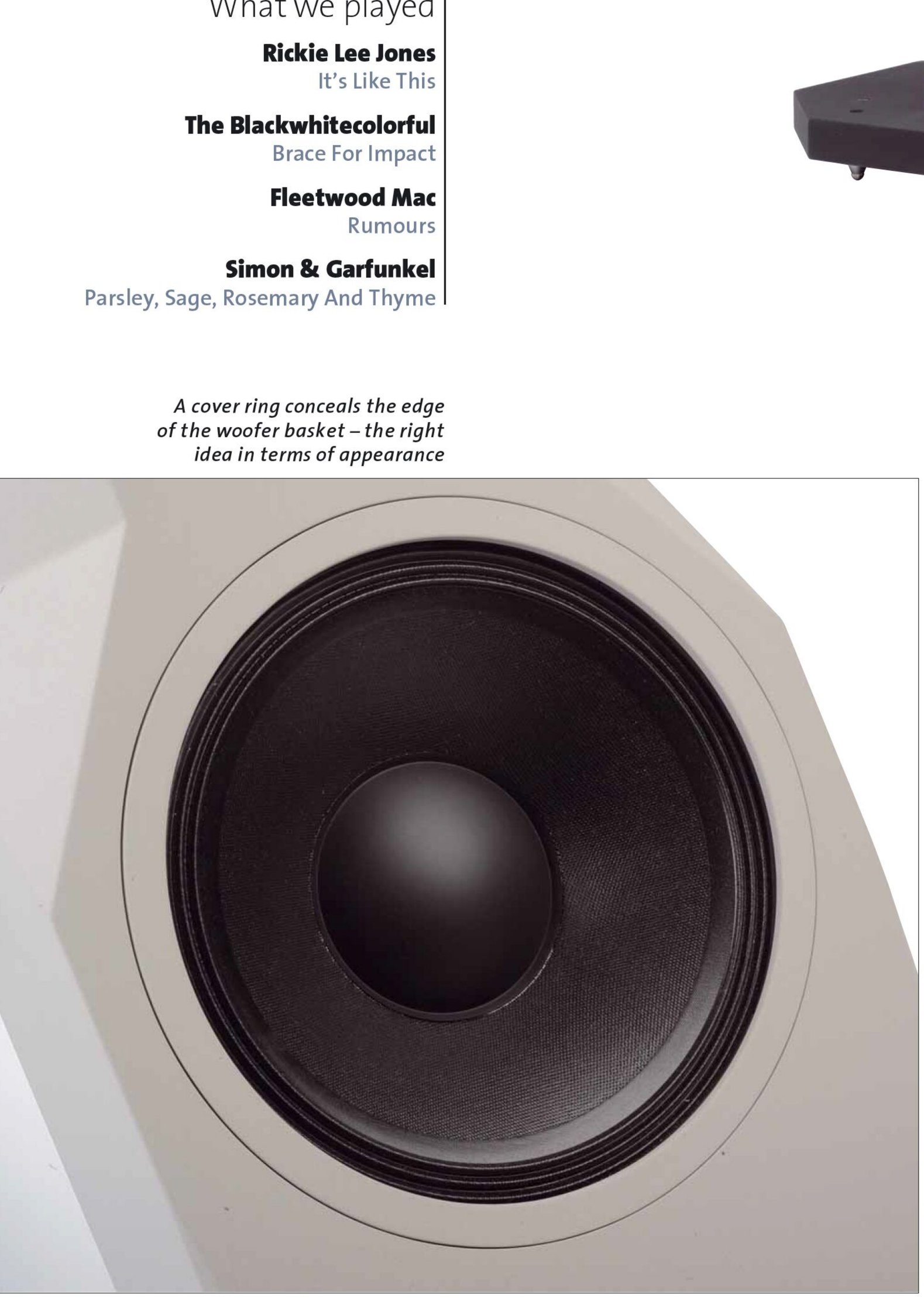
Simon & Garfunkel
Parsley, Sage, Rosemary And Thyme

a tweeter's almost always necessary level reduction is realized has a considerable effect on the sound. It is usually realized with resistors, but Fink uses a transformer for the first time in Borg Episode 2. This has the advantage that the effective damping factor at the tweeter is considerably more significant, which has a positive effect. In addition, this transformer is built to act as a filtering component, helping simplify the tweeter crossover structure. There are also some remarkable changes to the component quality: There is even one of the legendary Danish Duelund capacitors in the tweeter section.



A real beauty of a crossover – here, the bass section

A cover ring conceals the edge of the woofer basket – the right idea in terms of appearance

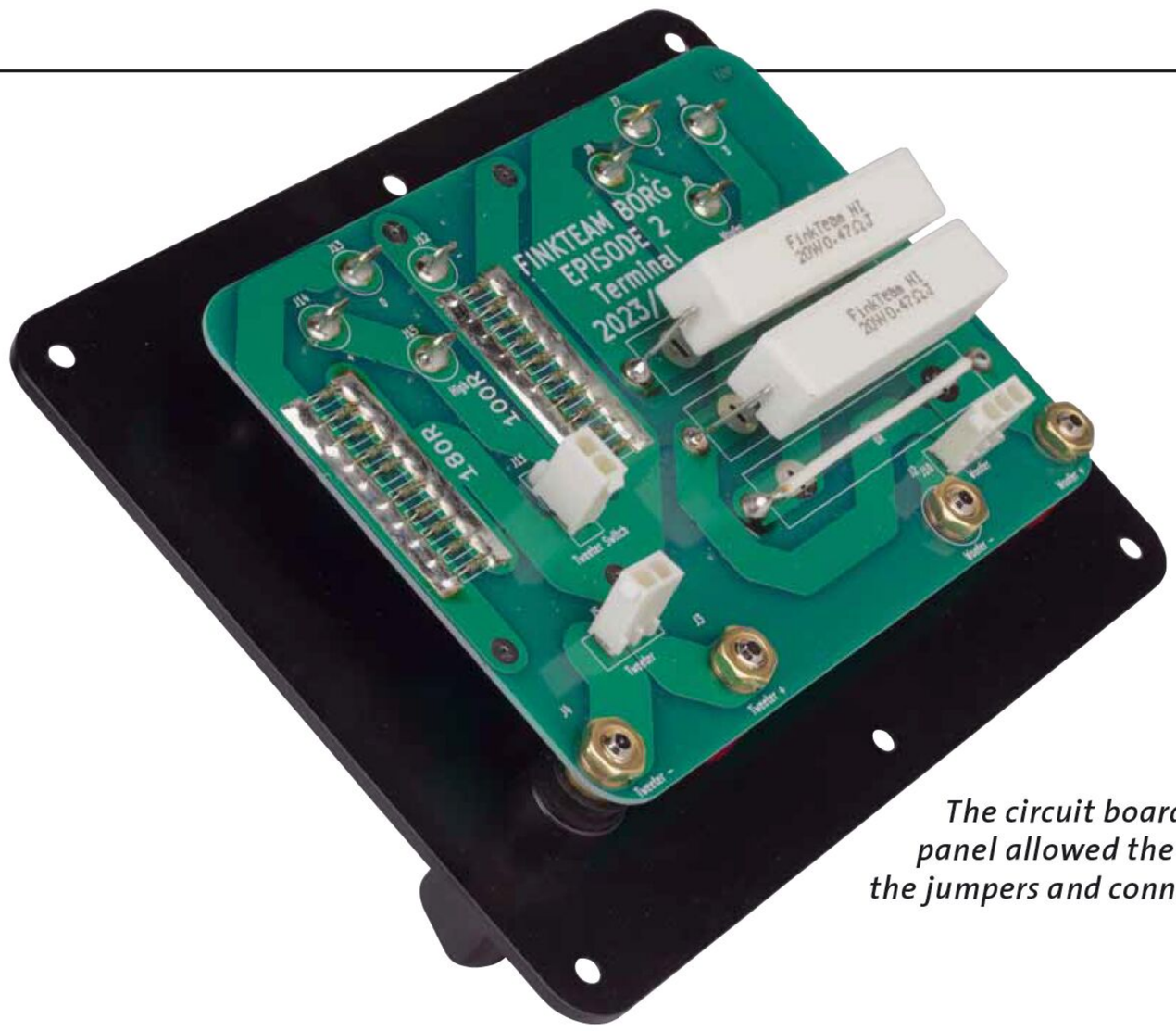


The rear connection panel is also completely new. Four rotary knobs for adjusting the mid-high range have been turned into two jumpers, which is not only in the interests of an unrestricted signal flow but also makes operation easier. The speaker is still connected via two pairs of solid binding posts, with jumper cables connecting both branches - but if you want, you can also use real bi-wiring or bi-amping.

The crossover is a rather impressive structure mounted upright on the base plate of the speaker. In the event of an upgrade, this base plate is also replaced. It provides the greater degree of tilt that characterizes the new version.

Control

The Borg Episode 2 is generally a frugal loudspeaker regarding power requirements. Thanks to a decent efficiency and a linearized impedance curve, it is compati-



The new connector panel with bi-wiring bridges

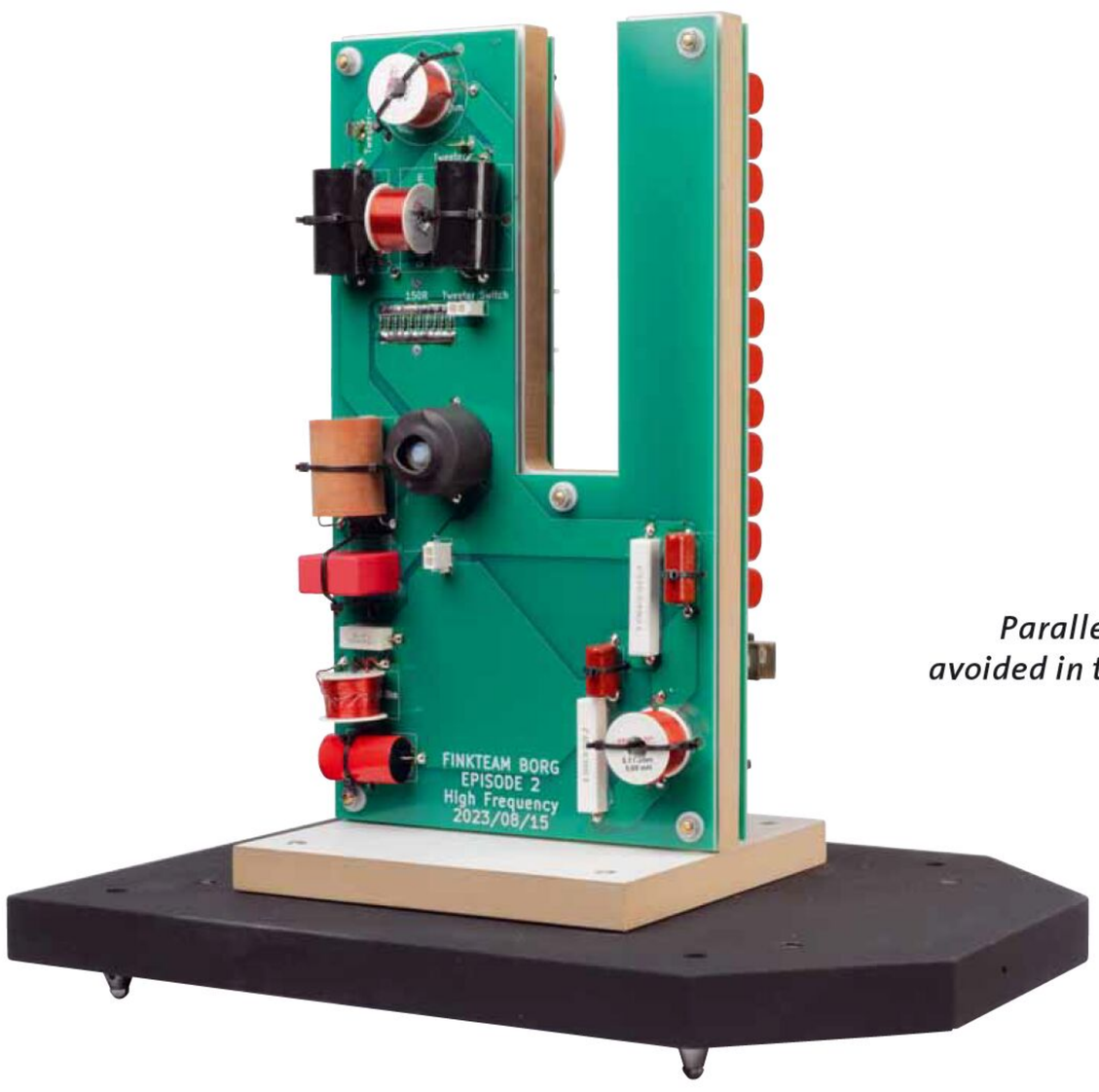
The circuit board of the connection panel allowed the integration of the jumpers and connection sockets

ble with almost any electronics, including all kinds of tube devices. However, quality in this area is rewarded with high transparency.

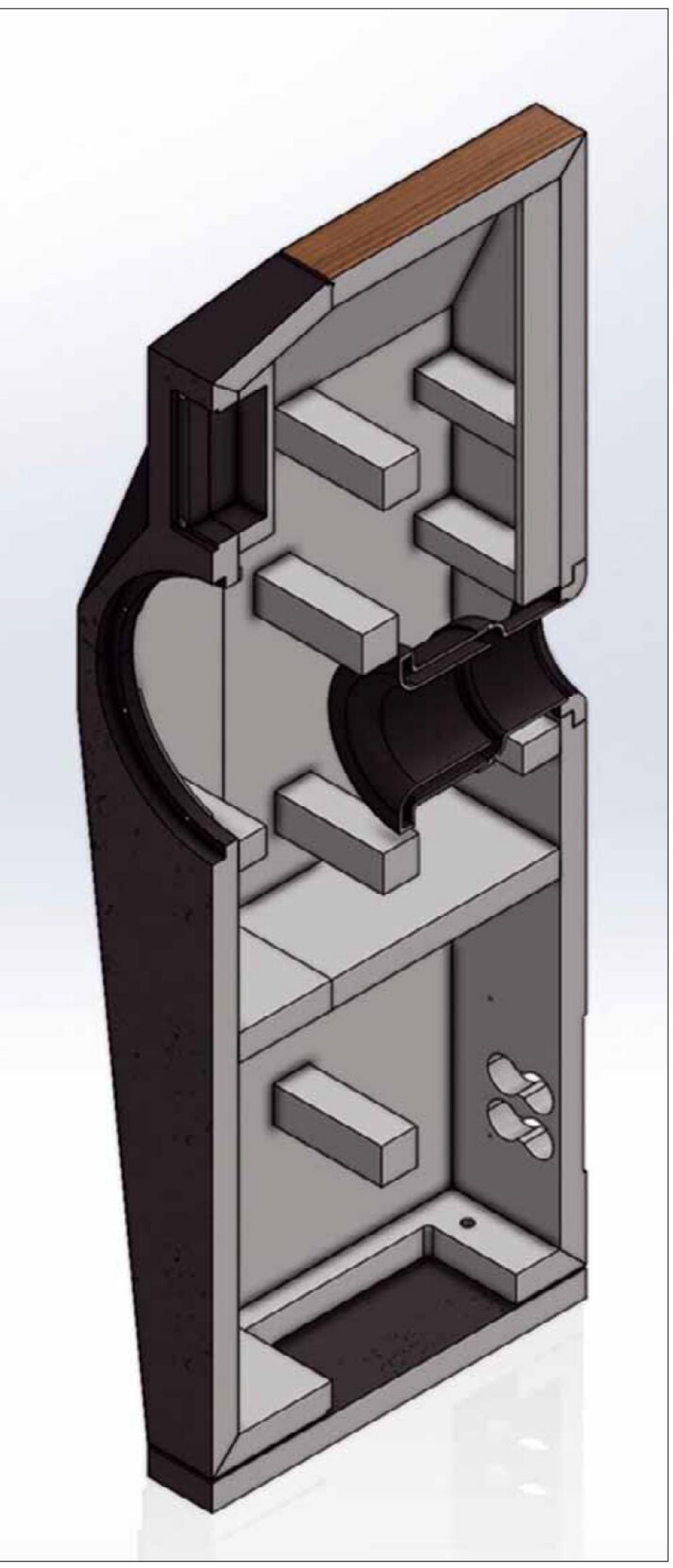
Sound

No, I wasn‘t surprised. I had already spent too much time with Borg Episode 2 during its development for it to have taught me anything I didn‘t already know. However, I was thrilled once again by her abilities. Again, it was the awesome Accuphase combo I couldn‘t live without regarding amplification after a while. The wonderfully snarly bass on Ricki Lee Jones‘ excellent 2000 album „It‘s Like This“ is something the Borg can reproduce brilliantly with these amplifiers. I also like the sound of the piano here enormously. Very energetic, with lots of detail, but without a trace of sharpness – fantastic. The way Fink has taught the big AMT to breathe and achieve finesse is

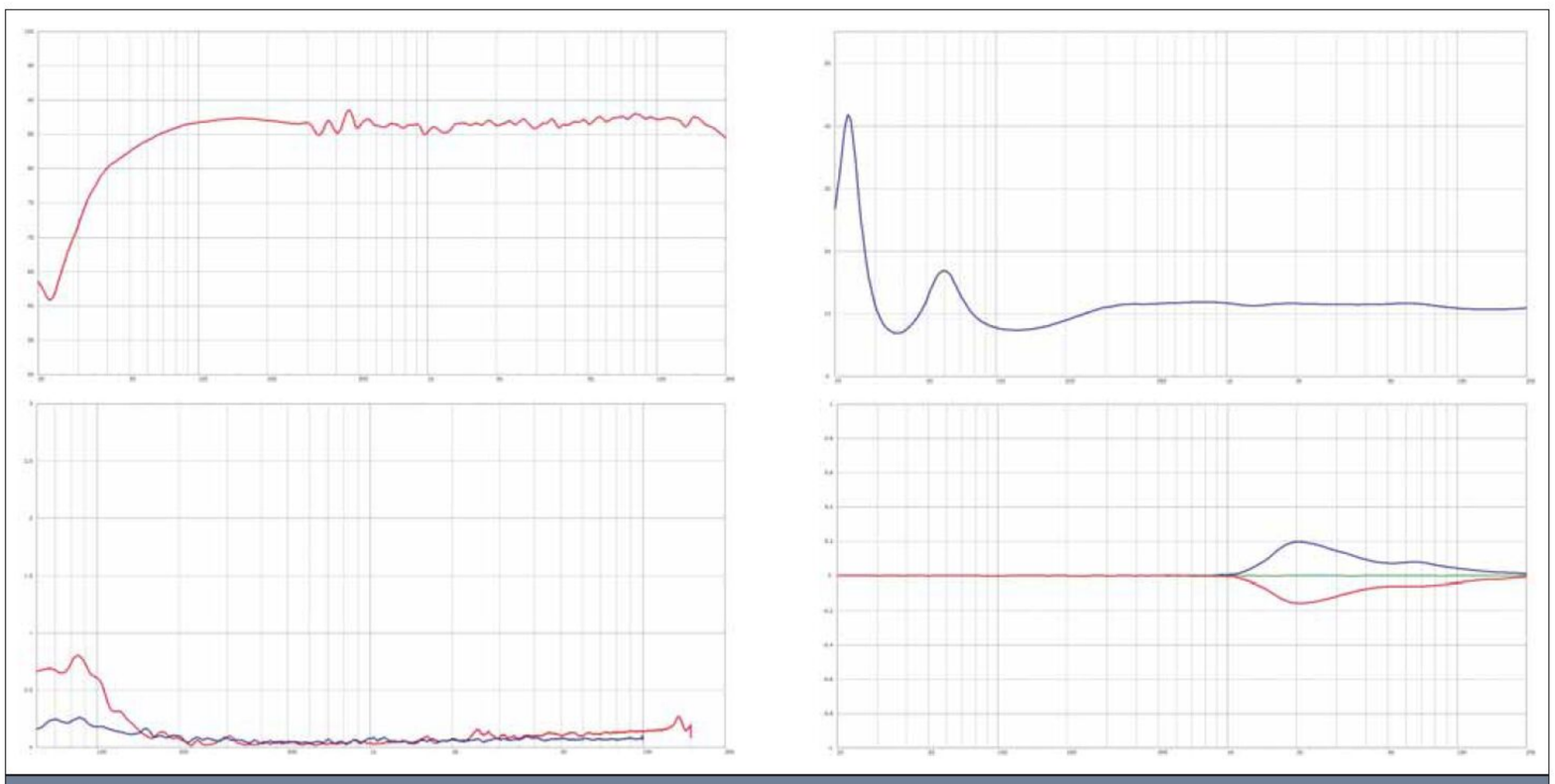
Parallel walls were consistently avoided in the design of the housing



This is the tweeter crossover in its final form



The cabinet sectional drawing reveals numerous reinforcements for even more stability



Measurements

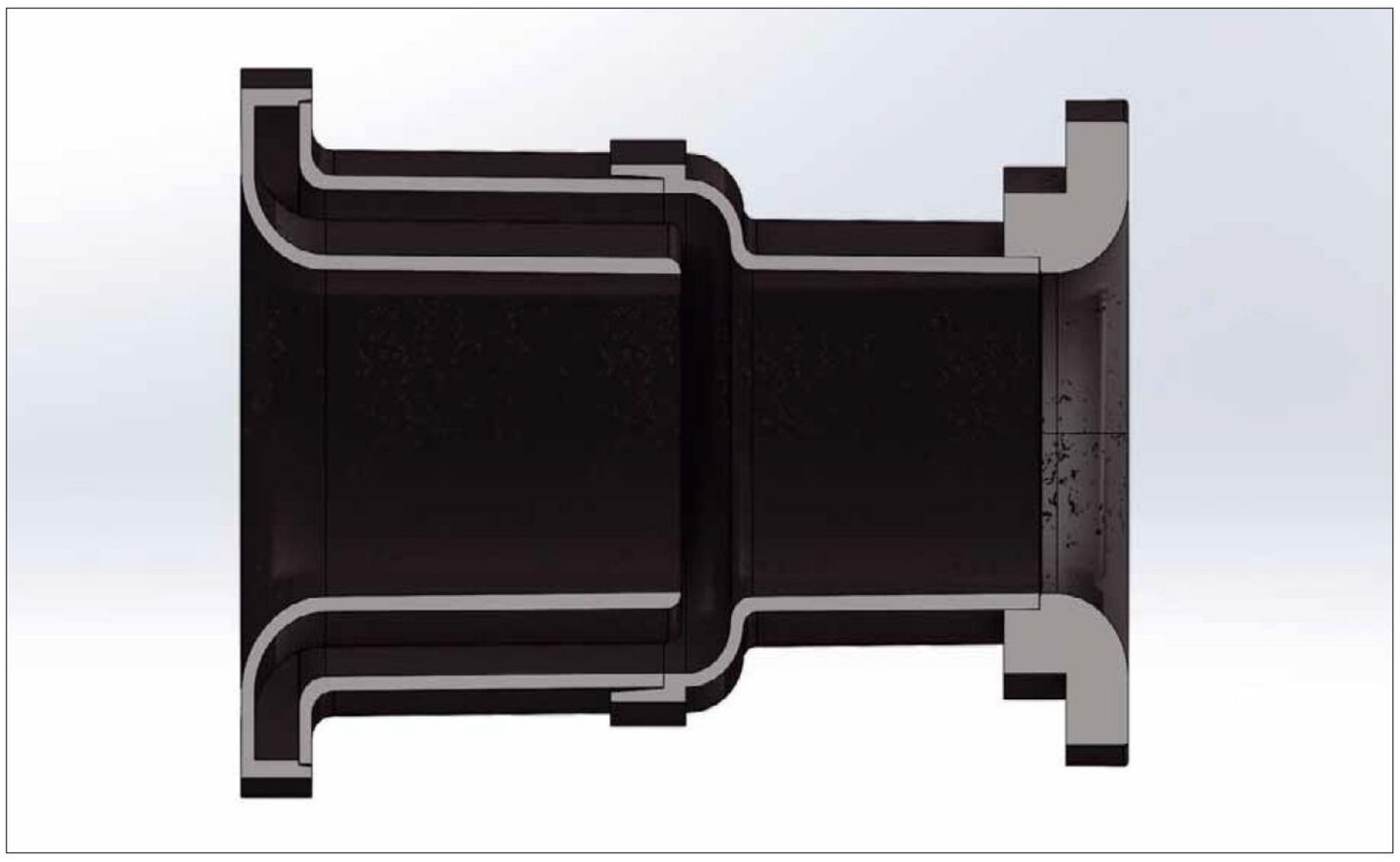
Lab comment

In this case, we rely on the manufacturer's measurements. The amplitude response of the Borg Episode 2 is very balanced. In the bass, the sound pressure drops relatively early but very gently, which is suitable for "real" living rooms. The efficiency is 87 decibels at an average impedance of around ten ohms. The impedance curve is linearized. The distortion curve at 84 decibels of sound pressure reveals extremely low distortion values down to low frequencies, which speaks for excellent drivers. The last diagram shows the effect of the three-stage reversible "high" filter. The slight difference in level of a maximum of 0.2 decibels is also comprehensible.

genuinely outstanding. The transformer coupling works great - something I always noticed during my many years working for our DIY magazine Klang & Ton. Meanwhile, the loudspeaker swings soulfully through the super-tense „Low Spark Of High Heeled Boys," which lives decisively from its rhythmic finesse.

The Cologne band „The Blackwhite-colorful," whose new album (review at the back of the magazine) is a perfect choice for the Episode 2, caters to the fun-loving faction. The bass drum kicks impressively, and the vocals are highly convincingly extracted from the guitar wall and stand well ahead of the rest of the action. That's how it should be. The Borg Episode 2 passes the „seventies test" of Fleetwood Mac with flying colors. The bottom end is warm and gritty, and she does an excellent job of keeping the two singers apart, granting them passion and conviction. I really enjoy that the Borg has become a loudspeaker with passion and has shed the slightly ascetic quality still characteristic of the original version. However, its transparency, which was already noticeable in the past, has increased, as has the atmospheric density it can create—definitely a transducer for the desert island.

Holger Barske



The vent is an extremely tricky design with a built-in resonator

Fink Team Borg Episode II

· Price per pair	ca. 30,000 Euro
· Distribution	IDC Klaassen, Lünen
· Phone	+49 231 9860285
· Internet	www.finkteam.com
· Warranty	2 years
· Dimensions (W x H x D)	300 x 1050 x 400 mm
· Weight	approx. 52 kg

lp

Fink Team
Borg Episode II

International 1/24

» The new Borg achieves a wonderful balancing act between monitor-like transparency and captivating warmth. It has a foundation, lightness, and an impressive degree of completeness. A great loudspeaker!

All Hope Is Green

A brand-new MC cartridge for just under EUR 600 is a sign of hope in a world of ever-increasing equipment prices. In this case, a bright green sign.

Initial remarks

China and cartridges – for a long time, something like that had only existed in secret; manufacturers who produced cartridges for prestigious brands in the old world, sometimes even legendary cartridges. One of these manufacturers is Skyanalog. A few years ago, the company decided to supplement its OEM business with models bearing its own name, and the rest, as they say, is history.

Today – although the fluctuation rate in this respect is relatively high - Skyanalog offers eight different cartridge models. All of them are classic low-output MCs housed in aluminum bodies. Apart from the fantastic „Reference“ model (we reported), the models can be roughly divided into the G and P series. The three G models, G1, G2, and G3, were the first to make it to Europe and have established a firm place for themselves in the sampling

Teammates

Turntable:
· TechDAS Air Force III / Reed 1X

Phono preamplifier:
· Clearaudio Balance Reference

Preamplifier:
· NEM PRA-5

Power amplifier:
· Yamaha P-2200

Loudspeaker:
· JBL 4355

Competitors

Pickup Cardridge:
· Benz ACE L
· Skyanalog G1

world. The same applies to the P series, in which Skyanalog classifies its entry-level systems. We have already covered the P1 and P2 models in detail.
The brand new P1-G is the harbinger of a new generation of entry-level models, although I have no idea what the „G“ in the model designation stands for. It can simply be attributed to the eye-catching anodized color of the aluminum body, but it could be the right idea. For just under EUR 600, you can buy one more model whose ingredients usually are only found on cartridges that cost several times as much. The most striking features can be recognized with the naked eye: the black stylus carrier and the small fineline diamond glued to it usually box in a completely different weight class. With this distinctive business end, the P1-G fulfills a vital requirement for high-quality MCs: the lowest

No surprises at the connection panel: stable gold pins with proper color coding

Nina Simone – Black Gold

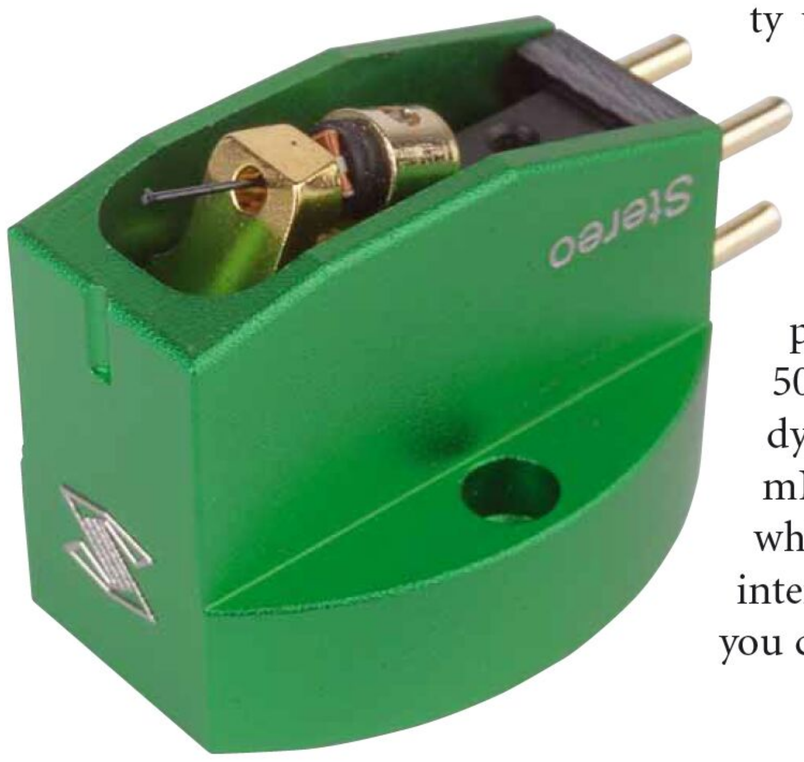
What we played

Nina Simone
Black Gold

Curtis Harding
If Words Were Flowers

LA4
Just Friends

Rabih Abou Khalil
Blue Camel



Skyanalog also relies on a noble boron needle carrier and a fine-line diamond for this cartridge

possible moving mass combined with the maximum rigidity of the stylus cantilever. Both ensure a high scanning capability and maximum upper cut-off frequency.
Incidentally, Skyanalog recently released another entry-level pickup, the P1-M. Here, for the first time, an aluminum stylus carrier was used. It is softer and heavier, but this model only costs EUR 400.
However, we are interested in the green beauty, which attracts attention with another feature of the P series, namely the open-bottomed housing; the body of the G models is largely closed. This gives you an unobstructed view of the generator details. Behind the front yoke, you can see the characteristic iron plate on which Skyanalog winds the coils in a cross shape. Behind it is a round damping rubber that provides the suspension‘s elasticity. A tensioning thread - which is not visible - ensures that everything stays in place.
Nothing is wrong with the finish of any of the components; in this respect, the manufacturer has even improved on its first models. The one-piece aluminum body consists of a thick base plate with cut-in mounting threads, and a gold-plated screw head protrudes that might only be used to secure the generator in the body or perhaps to adjust the thread tension. I would resist the temptation to turn it.
The issue of „needle protection“ has now been resolved. With the first Skyanalog models, there were still somewhat makeshift parts from the 3D printer; here, we are happy with a solid transparent injection-molded part that can be easily mounted and removed.
A look at the cartridge specifications reveals, as usual with Skyanalog, uncritical values that should ensure compatibility with a wide range of tonearms and phono inputs. The P1-G delivers an output voltage of 0.35 mV at a speed of 3.54 cm/s, corresponding to around 0.5 millivolts at the more common 5 cm/s. Any phono preamp amplifying with more than 50 decibels can easily handle this. The dynamic stylus compliance of 12µm/mN calls for a medium-heavy tonearm, which is common nowadays. With its low internal generator resistance of six ohms, you can also think about transformer operation; a 1:10 model is more than sufficient here. The recommended tracking force is 20 millinewtons; higher or lower values did not improve the sound in my setup.

The open housing allows an unobstructed view of the generator

Installation and sound

Mounting in the Reed 1X was entirely unproblematic; the straight front edge of the housing helps with the adjustment, and the stylus cantilever protrudes pleasingly straight out of the generator.
I ended up once again in the 100-ohm region, which gives the cartridge the optimum balance between bass pressure and high-range definition. Caution: The P1-G is a serious cartridge thoroughbred. It is advisable to put effort into the adjustment; the sound result will reward you with a very fine and high-resolution soundscape. It sounds subtler than the Benz ACE-L; it seems a little less powerful, although the terminating impedance can influence this. It draws precisely in the room, presenting events compactly but with excellent separation. The elegant sound character is reminiscent of the more expensive G1 model, which is unsurprising - many of its components can also be found in the P1-G. The cartridge is clearly a Nina Simone fan; it perfectly captures her unique voice‘s characteristics. In any case, my ambition to quickly switch back to an even more expensive system is minimal.

Holger Barske

Skyanalog P1-G

· Price	ca. 590 Euro
· Distribution	TCG, Nordhorn
· Phone	+49 5921 7884927
· Internet	skyanalog.de
· Warranty	2 years
· Weight	approx. 8,9 g

lp

Skyanalog
P1-G

International 1/24

» A distinctly noble and fine-sounding MC without affectation at a decidedly fair price – the P1-G is sure to be the next successful model from Skyanalog.

READ IT !

Now available

Coming soon:

Chromed dreams

For many years it was quiet when it came to new products from the Berlin manufacturer Burmester's amplifier team. There has recently been a new generation of power amplifiers, of which we are looking at the model 218 including a suitable preamplifier.

Formula 1 record player

With the “Naja” model, Rega has built one of the most extreme turntables available on the market. We work intensively on the extremely stiff and light construction.

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